AS300 Upgrade Guide

IMPAX 5.2 or 5.3 to IMPAX 6.5.3

Upgrading an IMPAX 5.2 or 5.3 Cluster

to an IMPAX 6.5.3 AS300 Configuration

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Note: The IMPAX 6.5.3 software complies with the Council Directive 93/42/EEC Concerning Medical Devices, as amended by Directive 2007/47/EC.

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- The equipment is used according to the instructions provided in the operation manuals.

- No software other than that which is distributed with this package or is sanctioned by Agfa will reside on the IMPAX 6.5.3 computers.

External software licenses

(Topic number: 7696)

Information about third-party software licenses and copyrights can be found in *External software licenses* (refer to page 99).

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(Topic number: 122201)

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1. In an email subject line or body, list which product, version, and publication you are commenting on.

   For example, "IMPAX 6.4 SU01 Client Knowledge Base: Extended". (You can find this information in the footer of the publications.)

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   Including your personal contact details is optional.

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Getting started

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To successfully upgrade IMPAX, servers must meet certain hardware and software requirements.

Valid IMPAX upgrade paths

(Topic number: 6607)

Sites can upgrade to IMPAX 6.5.3 from any of these versions of IMPAX (supported versions include any applicable SUs):

- IMPAX 5.2.5—hereafter referred to as IMPAX 5.2

- IMPAX 5.3.1 and 5.3.2—hereafter referred to as IMPAX 5.3

- IMPAX 6.2.1—hereafter referred to as IMPAX 6.2

- IMPAX 6.3.1—hereafter referred to as IMPAX 6.3

- IMPAX 6.4

- IMPAX 6.5, 6.5.1, and 6.5.2

For more detailed information, refer to the *IMPAX 5.x–6.x Service Update and Hot Fix Migration Paths* spreadsheet in the Additional documents section of the IMPAX Knowledge Base > Main Knowledge Base Page.

A site running IMPAX 4.5 can migrate its user data—passwords, IDs, and most preferences—to IMPAX 6.5.3. However, database data cannot be upgraded directly from IMPAX 4.5 to IMPAX 6.5.3. The IMPAX 4.5 database data and schema must first be upgraded to IMPAX 5.2, then to IMPAX 6.5.3. (This can be done during one upgrade, rather than in two separate upgrades.)

➡️ **Important!**

We recommend checking the migration log file after each leg of an upgrade before moving on to the next leg.

For AS300 (Windows) upgrades, also consider the following:

- Since all IMPAX 6.5.3 AS300 servers and Application Servers must be installed on Windows Server 2008 R2 SP1, all upgrades to IMPAX 6.5.3 require forklift upgrades to new or restaged hardware. All AS300 servers and Application Servers in a cluster must use the same operating system. For details on installing Windows Server 2008 R2 SP1, refer to the *IMPAX 6.5.3 AS300 Installation and Configuration Guide.*

- For IMPAX AS300 upgrades, if you are currently on SQL Server 2000 or later, and you want to continue using SQL Server, you must do a forklift upgrade onto new or restaged hardware installed with SQL Server 2008 R2 SP1. For details on installing SQL Server 2008 R2 SP1, refer to the *AS300 Preparing to Upgrade Guide—IMPAX 4.5, 5.2, 5.3, or WEB1000 to IMPAX 6.5.3* or the *AS300 Preparing to Upgrade Guide—IMPAX 6.2 or Later to IMPAX 6.5.3.*

- To migrate an IMPAX AS300 cluster from SQL Server to Oracle, contact Agfa Professional Services for assistance. This migration process is not documented in this guide.

For Oracle upgrades, the following considerations apply:

- To migrate an IMPAX cluster from Oracle for Solaris to Oracle on Windows, contact Agfa Professional Services for assistance. This migration process is not documented in this guide.

- If performing a forklift upgrade, ensure that you install the same Oracle edition as the existing production system or else the database migration will fail. For example, if the database on the production system is Oracle Standard Edition, install Oracle Standard Edition when staging the new system. Or, if the database on the production system is Oracle Enterprise Edition, install Oracle Enterprise Edition when staging the new system.

Related documentation: IMPAX upgrades

(Topic number: 60109)

This guide is intended for service and administrative personnel who are upgrading an IMPAX 5.2 or 5.3 AS300 cluster to IMPAX 6.5.3.

It is a companion volume to the *AS300 Preparing to Upgrade Guide—IMPAX 4.5, 5.2, 5.3, or WEB1000 to IMPAX 6.5.3*, which describes all tasks leading up to the upgrade weekend.

If upgrading an IMPAX AS300 cluster that uses direct attached archives, refer to the *AS300 Upgrade and DAA Consolidation Guide—IMPAX 5.2 or 5.3 to IMPAX 6.5.3.*

If installing and initially configuring a new AS300 cluster, rather than upgrading an existing cluster, refer to the *IMPAX 6.5.3 AS300 Installation and Configuration Guide.*

For information about using the IMPAX 6.5.3 software once it is installed, refer to the *IMPAX 6.5.3 Server Knowledge Base, IMPAX 6.5.3 Application Server Knowledge Base*, and *IMPAX 6.5.3 Client Knowledge Base: Extended.*

Preparing to upgrade

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> ◈ **Important!**
>
> Before proceeding with the upgrade of the AS300 server components, ensure that you have completed the tasks outlined in the *AS300 Preparing to Upgrade Guide—IMPAX 4.5, 5.2, 5.3, or WEB1000 to IMPAX 6.5.3.*

You must perform certain preparatory tasks before upgrading to an IMPAX 6.5.3 AS300 configuration. These tasks include taking a system snapshot, stopping the transmission of data to the previous release of IMPAX, and emptying and halting queues.

If needing to migrate away from using direct attached archives (not supported in IMPAX 6.5.3), follow the parallel migration procedure described in the *AS300 Upgrade and DAA Consolidation Guide—IMPAX 5.2 or 5.3 to IMPAX 6.5.3.*

1. Gathering information and equipment

(Topic number: 10190)

To perform the AS300 server upgrade and migration, gather the information and equipment needed for migrating and upgrading the stations.

IMPAX 5.2 or 5.3 upgrades: Necessary information and equipment

(Topic number: 10231)

Equipment and information for upgrading existing IMPAX 5.2 or 5.3 stations	Notes
Whether Cross-Cluster Dictation is required, for synchronizing dictation status between IMPAX 5.2 or 5.3 and IMPAX 6.5.3.	

Equipment and information for upgrading existing IMPAX 5.2 or 5.3 stations	Notes
As upgrading IMPAX AS300 servers to IMPAX 6.5.3 necessitates forklift upgrades, the new or restaged servers should be prepared accordingly.	
If having to upgrade to SQL Server 2008 R2 SP1, you must obtain the SQL Server 2008 R2 software and service pack. (SQL Server 2008 R2 is not distributed with IMPAX but is available from the Agfa Parts Center.)	
If switching to Oracle for Windows, contact Agfa Professional Services for assistance. This guide does **not** document how to migrate from SQL Server to Oracle.	
Which standard time server or source to synchronize the server clock against.	
Whether using domain authentication.	
Whether worklists have been configured on the training server.	
Whether report data has been moved to the training server.	
Fully qualified domain name of the main Application Server.	
Whether any WEB1000 connections need to be managed.	
Whether an Audit Record Repository is being added to the cluster.	

2. Running the Cross-Cluster Dictation Interlock tool

(Topic number: 47379)

Before it can be run, the Cross-Cluster Dictation Interlock tool must be installed and configured.

The Cross-Cluster Dictation Interlock (CCDI) tool synchronizes both the dictation status and the claim status of studies between the previous version of IMPAX and IMPAX 6.5.3, when these are running in parallel—such as may happen when using a training server, when using a traveling server, or if planning to run the upgraded IMPAX cluster alongside the previous-version IMPAX cluster for a transition period.

Synchronization of the claim status of studies occurs only between versions of IMPAX that support shared workflows from which radiologists can then claim ownership of studies.

Note:

Do not confuse CCDI with Dual Cluster Claim and Assign (DCCA), which allows two active clusters of the same version (IMPAX 6.5.2 or later), running in parallel, to synchronize study status notifications and claim and assign messages between the two clusters as though they were one. For details, see "Understanding Dual Cluster Claim and Assign" (topic number 128193) in the *IMPAX 6.5.3 Application Server Knowledge Base.*

To run the Cross-Cluster Dictation Interlock tool

1. On the 6.5.3 Application Server where the Relay service is running, open a command prompt.

2. Type the following command:

   net start StudyStatusRelayService

3. Exit the command prompt.

3. Taking a system snapshot

(Topic number: 7613)

Before upgrading to IMPAX 6.5.3, use the migration_inventory tool to capture the current state of the system for later comparison. Perform this task on any computer that has access to the AS300 database to be migrated and on which the Migration Tools have been installed.

To take a system snapshot

1. At a command prompt, change to the **C:\mvf-mig6\bin** directory.

2. Type

   migration_inventory -d *database_name* **-U** *database_user_name* **-P** *database_password* **-s** **-D** *Database_Server_host_name*

   The output is stored in the migration_info table. It lists the number of IMPAX studies, total objects, and objects in cache. It also lists all IMPAX source stations and DICOM printers.

3. To create a report file with this information, type

   mig_reporter -t system_inventory_tool

   This command writes the output of the migration_inventory command to a report file in the C:\mvf-mig6\reports directory.

4. Emptying Connectivity Manager queues

(Topic number: 113307)

Before shutting down IMPAX to upgrade the system, empty all DM Out or impax_report_server queues. Consult Connectivity Manager service personnel to discuss queues that have error transactions.

To empty Connectivity Manager queues

1. In Connectivity Manager, open Service Tools and click **Queue Manager**.

2. Select any device with either pending or error transactions and empty the queues.

3. Retry recent messages and delete older messages, since newer transactions may have updated patient, study, and report data after these transactions entered an error state.

5. Stopping Connectivity Manager interfaces

(Topic number: 113766)

During the IMPAX upgrade, you can prevent the loss of clinical patient updates from hospital information systems by stopping data bound for the Connectivity Manager, or by stopping the Connectivity Manager's outbound queues. The preferred method is to stop inbound interfaces, which prevents the Connectivity Manager from receiving incoming messages.

Coordinate with hospital information system personnel to confirm that they are capable of holding messages in queues. If the information system queues can be stopped, also stop the Connectivity Manager's inbound interfaces.

To stop Connectivity Manager interfaces

1. In Connectivity Manager, open **Service Tools**.

    The Device Manager displays a list of devices and interfaces and their status.

2. To re-sort and group all device classes, click **Class**.

3. Scroll down to view `CMSI` and `HL7` class devices.

4. Note which `HL7 In` and `CMSI In` interfaces are started. These interfaces must be restarted after the IMPAX upgrade.

5. Select the checkbox beside each of the started inbound interfaces.

6. Click **Stop**.

The status of each selected interface changes to `Stopped`.

6. Stopping Connectivity Manager queues

(Topic number: 67550)

If the Connectivity Manager's inbound devices have not been stopped, stop the IMPAX outbound DM Out and impax_report_server queues prior to shutting down IMPAX for the upgrade. Messages in stopped queues are not processed and remain in the queue until the queue is restarted. Outbound queues are restarted automatically if the Agfa Connectivity service is restarted, or if the Connectivity Manager server is restarted.

To stop Connectivity Manager queues

1. In Connectivity Manager, open Service Tools and click **Queue Manager**.

2. In the Queue List table, select the checkbox beside each queue belonging to a device with a DM Out or impax_report_server component.

3. Click **Stop**.

    The status of the queues changes to `Stopped`.

Connectivity Manager outbound message queues must be configured with the new server settings before messages are added to the queues. Consult a Connectivity Manager integrator to create a device for the destination IMPAX server. Report updates can be sent to only one IMPAX server, after all reports have been copied to that server.

7. Stop transmitting data to IMPAX

(Topic number: 7617)

Allow remaining SEND jobs to continue until they have finished, then stop any more studies from being transmitted in the IMPAX system.

To stop transmitting data to IMPAX

1. Open the Windows Administrative Tools and select **Services**.
2. Right-click the **DICOM Service Class Provider** service and select **Properties**.
3. To change the Service status, click **Stop**.
4. From the Startup type list, select **Disabled**.
5. To close the Properties dialog, click **OK**.
6. Launch the IMPAX Service Tools and log in as user **service**.
7. On the Daily tab, select **Job Manager**.
8. Monitor each **Transmit** queue and wait for all outgoing jobs to finish.

    You cannot delete jobs in progress.
9. Select each Transmit queue and click **Halt Queue**.
10. To confirm that you want to halt the queue, click **Yes**.

8. Redirecting studies to the training server

(Topic number: 10235)

Configure modalities to redirect studies to the training server system, so that they remain accessible to the IMPAX 6.5.3 Clients while the migration continues.

The details of how to redirect studies are modality-specific and are not covered in this guide.

9. Archiving remaining unarchived studies

(Topic number: 7742)

Use the information from the latest report on archiving studies to identify remaining unarchived studies (for details, refer to the appropriate version of the *IMPAX Preparing to Upgrade Guide*). You must store these studies to the archive.

1. Verifying unverified studies

(Topic number: 58295)

Before archiving studies, verify all unverified studies.

To verify unverified studies

1. In the Service Tools, on the Daily tab, click **Study Manager**.
2. From the location list, select **Failed Verification**.
3. Set other search criteria to **Any** value.
4. Click **Refresh**.
5. In the search results, select all studies.
6. To fix up the studies that have failed HIS verification, click **Fix All Studies**.
7. Review the results presented in the dialog.

2. Storing unarchived studies

(Topic number: 58298)

When no studies are returned by the Failed verification query, archive all remaining studies.

To store unarchived studies

1. In the Service Tools, on the Daily tab, click **Study Manager**.
2. From the location list, select **Cached** (or another value that will return the unarchived studies).
3. Set other search criteria to **Any** value (or set to appropriate values).
4. Click **Refresh**.
5. In the search results, select the studies to archive.

   The Location column on the results list shows the current location of the study, and indicates which studies are only in cache (C for system cache, L for local station cache, W for web cache) and not also in an archive location (such as P for PACS archive).

6. Click **Store to Archive**.

7. To update the status of the selected studies, click **Refresh**.

8. Ensure that all studies are archived.

＊ Tip:

To store unarchived studies, you could also use the Migration Toolbox and run the study_archive_report tool. For details, see "Running an initial report on study archiving status" (topic number 6630) in the *AS300 Preparing to Upgrade Guide—IMPAX 4.5, 5.2, 5.3, or WEB1000 to IMPAX 6.5.3* or the *AS3000 Preparing to Upgrade Guide—IMPAX 4.5, 5.2, 5.3, or WEB1000 to IMPAX 6.5.3.*

10. Emptying all queues

(Topic number: 7702)

Monitor the Job Manager to make sure that all the queues are empty and that all jobs are completed prior to the upgrade.

To empty all queues

1. In the Service Tools, on the Daily tab, select **Job Manager**.

2. If an archive job remains in any of the queues, select the job and click **Expedite Selected Job(s)**.

3. If any other job remains in any of the queues, select the job and click **Delete selected job(s)**.

11. Halting all queues

(Topic number: 59660)

Halt all queues until the upgrade is done.

To halt all queues

1. In the Service Tools, on the Daily tab, select **Job Manager**.

2. In the queue list, select **All Queues**.

3. Click **Halt Queue**.

4. To confirm that you want to halt the queues, click **Yes**.

12. Deleting cache locations for studies

(Topic number: 7707)

If you are replacing the 5.2 or 5.3 servers and are not restoring the files in the cache directory after the upgrade, to prevent database inconsistencies, remove all database references to images in cache. You must also do this for studies in Client caches, because IMPAX 6.5.3 no longer supports cached Clients—only cacheless and standalone Clients.

To remove references to images in cache, find all study_refs that are in the cache and delete them.

📋 **Note:**

Images in the cache are archived and, if necessary, can be retrieved after the upgrade is complete.

To delete cache locations for studies

1. On a station with a cache containing database references to remove, log in as the **mvf** user.

2. Launch CLUI and type

   cache query

   A list of caches and their volume_refs is displayed.

3. To store all study_refs into variable *a*, type

   save_refs a select distinct ds.study_ref from dosr_study ds, dosr_object do where ds.study_ref = do.study_ref and do.object_ref in (select object_ref from osr_location where volume_ref = *volume_ref*)

   where *volume_ref* is the volume reference of the cache.

4. To enter menu mode, type

   Go menu

5. Select **Study Manager**.

6. Select **Delete Studies Menu**.

7. Select **Delete Study from Cache**.

8. To process the study_refs stored in the variable *a*, at the command prompt, type **a**.

   All studies in the volume_ref's cache are removed.

9. Repeat the previous steps on each station in the cluster that has a cache and whose database references you want to remove.

13. Stopping antivirus software

(Topic number: 7616)

If you have antivirus software installed on any Windows-based servers, ensure that no scan jobs are running that would interfere with the upgrade process. Stop the antivirus services.

To stop antivirus software

1. On a Windows server to upgrade, launch the antivirus software.

2. Halt the scan operation according to the vendor's instructions.

14. Clearing the archive Logical Volume

(Topic number: 7734)

To avoid conflicts when upgrading, clear the archive Logical Volume. IMPAX re-creates the Logical Volume folders and files afterward. (If replacing the existing server with a new one, this task is not required.)

CAUTION!

Ensure that the Logical Volume is empty before deleting it. If it is not empty, create a store job to archive the images in the Logical Volume.

To clear the archive Logical Volume

1. In the Service Tools, on the Setup tab, select **Archive Manager**.

2. Select the Logical Volume and click **Close**.

3. At the Close Volume prompt, click **Yes**.

4. Ensure that the Archive queue is halted.

5. Delete the Logical Volume folder and files from the drive.

The Logical Volume folder and files are automatically re-created by IMPAX.

15. Deleting old log files

(Topic number: 7706)

⊕ **Important!**

This topic applies only when upgrading an existing server (in-place upgrade).

On the server being upgraded, remove any old log files to ensure that all future log information is a result of the upgrade procedure.

To delete old log files

1. On the server to be upgraded, open a command prompt.
2. Change to the **C:\mvf\bin** directory.
3. Run **stopall.bat**.
4. For future reference, copy all files in C:\mvf\data\logs\ to a backup location.
5. Delete all the log files from C:\mvf\data\logs.

16. Uninstalling IMPAX documentation

(Topic number: 7610)

You must uninstall any existing IMPAX documentation before you can install the new IMPAX 6.5.3 documentation.

Uninstalling IMPAX 5.2 or 5.3 documentation
(Topic number: 10734)

IMPAX 5.2 and 5.3 had separate Client and Server Knowledge Bases, each of which must be separately uninstalled. This documentation may have been installed on any 5.2 or 5.3 IMPAX Client or Server machines.

1. Removing the IMPAX 5.2 or 5.3 Client Knowledge Base
(Topic number: 58578)

If the IMPAX 5.2 or 5.3 Client Knowledge Base is installed, you must uninstall it before upgrading.

To remove the IMPAX 5.2 or 5.3 Client Knowledge Base

1. Open Control Panel.

2. Select **Add or Remove Programs**.

3. Select **IMPAX Client Knowledge Base 5.2** or **IMPAX Client Knowledge Base 5.3** and click **Change/Remove**.

4. In the Confirmation dialog, click **OK**.

5. If also uninstalling the IMPAX Server Knowledge Base, in the Maintenance Complete dialog, select **No, I will restart my computer later**. Otherwise, select **Yes, I want to restart my computer now** and click **Finish**.

6. If you restarted the computer, log into Windows as an administrator-level user.

7. To remove any translations of the IMPAX 5.2 or 5.3 Client Knowledge Base, delete the **C:/impax/documents/client/translations** directory.

2. Removing the IMPAX 5.2 Server Knowledge Base
(Topic number: 58581)

The IMPAX 5.2 Server Knowledge was used for both IMPAX 5.2 and 5.3 releases. If it is installed, uninstall it before upgrading.

To remove the IMPAX 5.2 Server Knowledge Base

1. Open Control Panel.

2. On Windows 2003 servers, select **Add or Remove Programs**. On Windows 2008 servers, select **Programs and Features**.

3. Select **IMPAX Server Knowledge Base 5.2**.

4. On Windows 2003 servers, click **Change/Remove**. On Windows 2008 servers, click **Uninstall**.

5. In the Confirmation dialog, click **OK**.

6. In the Maintenance Complete dialog, select **Yes, I want to restart my computer now** and click **Finish**.

Once the computer restarts, log into Windows as an administrator-level user.

Performing a forklift upgrade of an AS300 SQL Database Server to IMPAX 6.5.3

3

When replacing the existing Database Server with a new one, you install all external and IMPAX 6.5.3 software in advance, during the preparing to upgrade period, saving you considerable time during the upgrade weekend.

For more details, refer to the *AS300 Preparing to Upgrade Guide—IMPAX 4.5, 5.2, 5.3, or WEB1000 to IMPAX 6.5.3.*

1. Staging the new IMPAX 6.5.3 Database Server
(Topic number: 147160)

Before proceeding with the forklift upgrade, if not already done, stage a new IMPAX 6.5.3 Database Server (in a single-host, dedicated Database Server, or all-in-one configuration, as applicable).

> **Important!**
>
> Give the new Database Server the same host name as the existing production Database Server. (This also applies to any other servers in the IMPAX cluster.) Network drive letters also should remain the same for the SQL database, caches, HSM archive, and so on.

The following is a high-level overview.

To stage the new IMPAX 6.5.3 Database Server

1. Install Windows Server 2008 R2 SP1. For details, see " Installing and configuring Windows Server 2008 R2" (topic number 141323) in the *IMPAX 6.5.3 AS300 Installation and Configuration Guide*.

2. Install SQL Server 2008 R2 SP1. For details, see "Installing SQL Server 2008 R2" (topic number 141825) in the *AS300 Preparing to Upgrade Guide—IMPAX 4.5, 5.2, 5.3, or WEB1000 to IMPAX 6.5.3*.

   After installing SQL Server 2008 R2 SP1, confirm through SQL Server Management Studio that the version is `SQL Server 10.50.2500`.

3. Install the Migration Toolbox. For details, see "Installing the Migration Toolbox on a Windows server" (topic number 11493) in the *AS300 Preparing to Upgrade Guide—IMPAX 4.5, 5.2, 5.3, or WEB1000 to IMPAX 6.5.3*.

4. If installing an all-in-one server (all AS300 Server and Application Server components are installed on the same computer), install and configure the IMPAX 6.5.3 Application Server. For details, see the *IMPAX 6.5.3 Application Server Installation, Upgrade, and Configuration Guide*.

2. Installing the IMPAX 6.5.3 AS300 packages on a new SQL Database Server

(Topic number: 125936)

To install IMPAX AS300 Server, you must be logged into Windows as an administrator-level user.

Use the IMPAX installer to install the necessary AS300 packages on the system. These packages are described in *AS300 installer packages reference* (refer to page 82).

To install the IMPAX 6.5.3 AS300 packages on a new SQL Database Server

1. Insert the IMPAX AS300 DVD or access the ISO file.

2. Double-click **as300-installer.exe**.

3. Type your name (minimum three characters).

   This information is recorded in the installer log file.

4. On the Welcome screen, click **Next**.

5. On the Select features screen, all Default Packages are selected. Clear the checkboxes of any packages that should not be installed.

   For a dedicated Database Server, normally clear the **MVFNetworkGateway** and **MVFocr** checkboxes.

   For a single-host server, normally all Default Packages are required except, potentially, **MVFocr.**

All default packages are selected by default. Clear the checkboxes of default packages that are not required.
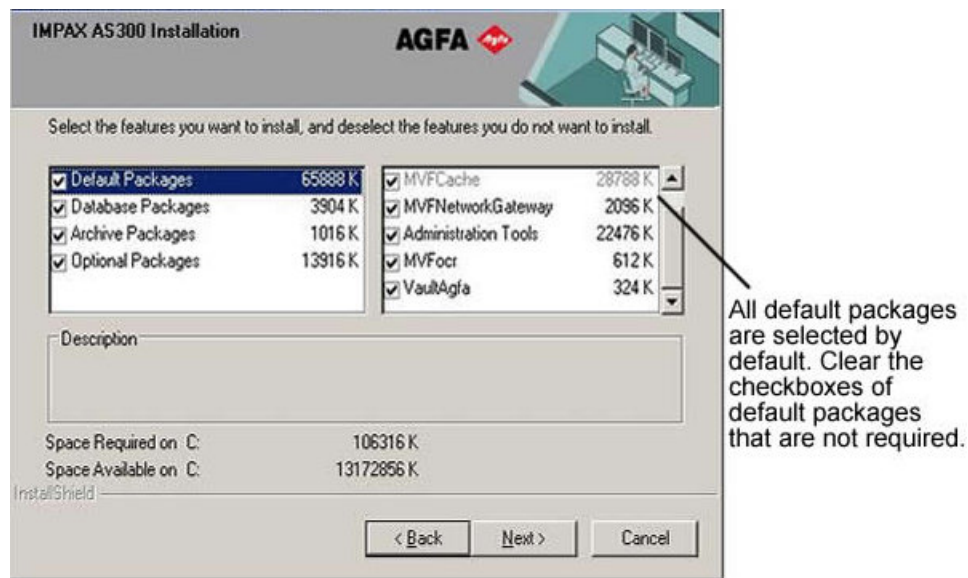
6. Select the **Database Packages** label.

7. Clear the **Oracle Server Extension** checkbox and select the **SQL Server Extension** checkbox.

8. For a dedicated Database Server (no archive), or if using PACS Store and Remember archiving only, clear the **Archive Packages** checkbox.

9. Select the **Optional Packages** label, then select the checkboxes of any optional packages that should be installed.

   • Select the **MVFCurator** and **MVFcdexport** checkboxes only if intending to install the Curator and CD Export server components on the Database Server rather than on a dedicated Curator server.

   • Select the **MVFpap** package only if the server is being used for archiving.

   • Clear the **MVFchangeaccepter** checkbox.

   • Do **not** select the MVFScavenger or the MVForadg checkbox.

10. Click **Next**.

11. If a Network Gateway package was installed, browse to the location of the MVF license file and click **OK**.

    If the mvf.lic file is not located in C:\mvf, the file is copied to that location. A dialog informs you of the success of the copy task.

12. If an Archive package was installed, browse to the location of the archive license file and click **OK**.

    If the mvfarch.lic file is not located in C:\mvf, the file is copied to that location. A dialog informs you of the success of the copy task.

13. At the `Confirm: Your existing database is compatible with this version` prompt, click **Yes**.

14. On the Summary screen, to continue the installation, click **Next**.

15. After all the packages have been installed, click **Yes, I want to restart my computer now**.

    If you are not prompted to restart the computer, manually restart it.

After the server restarts, log into Windows as an administrator-level user.

3. Backing up the SQL 2000 database

(Topic number: 11497)

Back up the existing SQL Server database so that you can restore it onto the new IMPAX 6.5.3 Database Server.

Note:

Before backing up the database, confirm that you have stopped the IMPAX services, emptied and halted all queues, and shut the database down.

More details are available in *Preparing to upgrade* (refer to page 11).

To back up the SQL 2000 database

1. On the server running the AS300 database, select **Start** > **All Programs** > **Microsoft SQL Server** > **Enterprise Manager**.

2. In the Explorer window of the Enterprise Manager, expand **Console Root** > **Microsoft SQL Servers** > **SQL Server Group** > *server* > **Databases** > **MVF**

    where *server* is the name of the SQL Server IMPAX is running under.

3. Select **Action** > **All Tasks** > **Backup database**.

4. In the SQL Server Backup screen, in the Backup section, select **Database–complete**.

5. Click **Add** and specify the directory to back up to.

6. To start the backup, click **OK**.

7. Exit the SQL Server Enterprise Manager.

4. Restoring the database on the new SQL Database Server

(Topic number: 7627)

> ⚠️ **CAUTION!**
>
> Perform this task only when replacing an existing server with a new server. Be very careful not to delete any live database files. Perform this procedure only on a new server that has not had any clinical use, even as a training server. Do not perform this procedure on any production, training, or traveling servers.

When replacing the existing server with a new server, you first install the IMPAX 6.5.3 server software on the new server. You then restore the backed-up database on the new server, as described in this topic, before upgrading the schema.

To restore the database on the new SQL Database Server

1. Ensure that the new server database partition is as large as the original physical data files.

   Independent of the size of the backup, the restore causes the new data files to be as large as the original ones.

2. If not already done, shut down related services.

   a. To stop the IMPAX services, on all servers in the cluster, open a command prompt and type

      stopall.bat

   b. Shut down all applications that usually connect to the SQL Server database. Under Services, stop the SQL Server agent. Also, shut down the SQL Server Query Analyzer when not using it as part of the restore process.

   c. On the Application Server, open the Windows Administrative Tools and select **Services**. Right-click each of the following and select **Stop: IMPAX App Server Data Manager**, **IMPAX Audit Event Log Manager**, **IMPAX Dicom Object Sender**, **IMPAX Distributed License Manager**, **IMPAX Messaging Service**, and **World Wide Web Publishing**.

3. Before starting the restore, confirm that the directory that will contain the mvf database file has the correct permission:

   a. In Windows Explorer, right-click the folder and select **Properties**.

   b. Switch to the **Security** tab.

   c. Click **Edit**.

   d. Click **Add**.

   e. Select **ImpaxSQLUser** and click **OK**.

   f. Grant **Full Control** to ImpaxSQLUser and click **OK**.

g. To close the Properties dialog, click **OK**.

4. If you are restoring from tape, insert the backup tape into the tape drive.

5. In the Explorer window of the SQL Server Management Studio, expand *server* > **Databases** where *server* is the name of the SQL Server that IMPAX is running under.

6. Right-click **Database** and select **Restore Database**.

7. In the Destination for restore section, in the To database field, type **mvf**.

8. In the Source for restore section, select **From device** and specify the backup media and location.

9. Under Select the backup sets to restore, select the **mvf-Full Database Backup** set.

10. Select the **Options** page.

11. In the Restore the database files section, change the location of the data files as needed.

12. Select **Leave database ready to use by rolling back uncommitted transactions. Additional transaction logs cannot be restored.** Click **OK**.

The database is restored. A message confirms a successful restore.

13. Create IMPAX-specific users:

    a. Open SQL Server Management Studio.

    b. Open a new query window.

    c. Select **File** > **Open** and browse to C:\mvf\etc.

    d. Select **add_group.sql** and click **Open**.

    e. To execute the script, press **F5** or click **Execute**.

    f. Execute the **procedures_mvf.sql** and **recreate_user_mvf.sql** scripts as well.

14. To update the statistics for performance reasons, open a SQL Server Management Studio query window and type

    use mvf

    exec sp_updatestats

    go

15. In a command prompt, change to the **C:\mvf\bin** directory.

16. Type **clui** and confirm that you can successfully query the database.

17. On the Application Server, open the Windows Administrative Tools and select **Services**. Right-click each of the following services and select **Properties**. From the Startup type list, select **Automated**. Click **Start**, then click **OK**.

    a. **IMPAX App Server Data Manager**

    b. **IMPAX Audit Event Log Manager**

    c. **IMPAX Dicom Object Sender**

    d. **IMPAX Distributed License Manager**

    e. **IMPAX Messaging Service**

f. **World Wide Web Publishing**

5. Upgrading the IMPAX database schema to IMPAX 6.5.3

(Topic number: 60244)

◉ **Important!**

Only specific IMPAX upgrade paths are supported and it may not be possible to upgrade certain versions or SUs. More information is provided in the *IMPAX 5.x–6.x Service Update and Hot Fix Migration Paths* spreadsheet in the Additional documents section of the IMPAX Knowledge Base > Main Knowledge Base Page.

Upgrading the database schema to 6.5.3 requires the IMPAX Migration Tools. For Migration Tools installation instructions, see "Installing the Migration Toolbox on a Windows server" (topic number 11493) in the *AS300 Preparing to Upgrade Guide—IMPAX 4.5, 5.2, 5.3, or WEB1000 to IMPAX 6.5.3*.

When upgrading the database, you will be prompted for the report source. When prompted, supply the value stored in the requesting_service field in the Connectivity Manager database. To prepare for the upgrade, identify this value in advance. See "Identifying the report source" (topic number 68030) in the *AS300 Preparing to Upgrade Guide—IMPAX 4.5, 5.2, 5.3, or WEB1000 to IMPAX 6.5.3*.

⚠ **CAUTION!**

Any customization to the database—such as extra indexes, stored procedures, or triggers—may affect the schema upgrade. We recommend removing such customizations prior to the upgrade.

To upgrade the IMPAX database schema to IMPAX 6.5.3

1. On the Database Server, open a command prompt.

2. If upgrading from IMPAX 4.5, first upgrade the database to IMPAX 5.2 using PMTS scripts.

   The Parallel Migration Tool Set (PMTS) is available from Agfa. It is not distributed with the IMPAX software.

   a. Open a command prompt and change to the **C:\mvf\bin** directory.

   b. To upgrade the database to IMPAX 5.2, type

      migrate-mi-server-database.bat

   c. Then run the associated script by typing

      migrate-it-ws-database.bat

3. Change to the **C:\mvf-mig6\bin** directory.

4. Type **database-upgrade-script.bat -v *version***

   where *version* is one of **52**, **53**, **62**, **63**, **64**, or **65**. If upgrading from IMPAX 6.5.*x*, the version parameter can be omitted.

If running this command on a server that will be replaced, and that does not have .NET installed, you will get a `block_named_pipes.exe: not finding the dynamic link library mscoree.dll` error. Ignore this error and continue with the upgrade, since the replacement server will be running Windows 2008, which installs .NET automatically.

5. At the prompt

   ```
   Ready to upgrade database to version 6.5.3. Do you want to proceed [y, n]?
   ```

   Type **y** to continue.

6. If prompted for the fully qualified host name of the login server, type the fully qualified host name of the Application Server.

7. When prompted for a report source, if the Connectivity Manager query you ran previously returned a single value, use that value as the report source. If the query returned multiple values for the requesting_service field, consult a Connectivity Manager integrator, as mappings may also need to be changed.

   If this Connectivity Manager receives data from multiple report sources, then a few requesting_service values may exist that match each report source.

8. Respond appropriately to other prompts that appear.

The database is upgraded.

In the IMPAX database, confirm that the values of the requesting_service field match those in the Connectivity Manager. Open a SQL Server Management Studio query window and type

use mvf;

select distinct requesting_service from dosr_study;

6. Checking the status of SQL Server upgrades

(Topic number: 9914)

After upgrading the database, check the log file to ensure that the upgrade was successful.

⬆ **Important!**

We recommend checking the migration log file after each leg of an upgrade before moving on to the next leg.

To check the status of SQL Server upgrades

1. Open the log file C:\mvf-mig6\data\logs\migrate_database_to_IMPAX6.5.3.log.

2. If the following warning appears in the log file, you can safely ignore it:

   ```
   Warning: The table 'CHANGE_CONTEXT_DETAIL' has been created but its maximum
   row size (8095) exceeds the maximum number of bytes per row (8060). INSERT
   or UPDATE of a row in this table will fail if the resulting row length exceeds
   8060 bytes.
   ```

3. Ensure that `Migration Complete Successful` appears at the end of the log file.

   If this message does not appear, review the rest of the log file to see where the upgrade failed. Solve the problem, then rerun the upgrade script.

7. Backing up the SQL Server 2008 R2 database

(Topic number: 147840)

After upgrading SQL Server, to guard against information loss, manually back up the database again.

📋 **Note:**

Before backing up the database, confirm that you have stopped the IMPAX services, emptied and halted all queues, and shut the database down.

For more details, see *Preparing to upgrade* (refer to page 11).

Ensure that you are logged in using the AgfaService account; you cannot log into SQL Server Management Studio or back up the database from the command line using the Administrator account.

To back up the SQL database using SQL Server Management Studio

1. Select **Start** > **All Programs** > **Microsoft SQL Server**.

2. Right-click **SQL Server Management Studio** and select **Run as**.

3. Select **The following user**. Type **AgfaService** as the user name, and the AgfaService password.

   If you do not know the AgfaService password, you can run the passkey utility to find it: **passkey -M QUERY -u AgfaService**.

4. In the Object Explorer window, expand *server* > **Databases** > *database_name*

   where *server* is the name of the SQL Server that IMPAX is running under and *database_name* is the name of the database to be backed up.

5. Right-click *database_name* and select **Tasks** > **Backup**.

6. Configure the General and Options tabs according to your preferences for items such as the type of backup, the destination, and whether to overwrite or append to the media.

7. To start the backup, click **OK**.

8. Exit the SQL Server Management Studio.

To back up the SQL database from the command line

1. At a command prompt, type

   sqlcmd -U sa -P *sa_password* -dmaster

2. To back up the database, type

backup database *database_name* **to** *device_name*

where *database_name* is the name of the database to back up and *device_name* is the logical or physical name of the tape or disk device.

8. Scheduling additional SQL database backup jobs

(Topic number: 46983)

> 📑 **Note:**
>
> Ensure that you are logged in using the AgfaService account; you cannot log into SQL Server Management Studio using the Administrator account.

This procedure applies to SQL Server 2008 R2.

After upgrading SQL Server, to guard against information loss, manually back up the database again, then confirm that you can configure a schedule_backup job.

> ⚠ **CAUTION!**
>
> If backups are not created regularly, the transaction log fills up and eventually halts the operation of your system. Also note that you must do an initial backup of your database. Otherwise, SQL Server assumes that you do not want transaction logs maintained.

A schedule_backup job is automatically installed and enabled with the software package. This backup is scheduled to run at 12:00 midnight every day. In addition to the schedule_backup job, you can enable and schedule the differential or incremental database backup jobs, if required.

To configure an additional time to run a database backup at, perform the task that follows.

To schedule additional SQL database backup jobs
1. Ensure that you have done an initial manual backup of your database.
2. If not already started, start the SQL Server Agent service through the SQL Server Configuration Manager.
3. Open the SQL Server Management Studio.
4. In the Object Explorer window of the Management Studio, expand *server* > **SQL Server Agent** > **Jobs**

   where *server* is the name of the SQL Server that the program is running under.
5. Right-click **schedule_backup** and choose **Properties**.
6. In the Properties dialog, switch to the **Schedules** tab.
7. Click **New**.
8. In the New Job Schedule dialog, in the **Name** field, type **Daily Backup**.
9. Set other configuration options as appropriate for site requirements.

10. To apply the changes, click **OK**.

11. If you are configuring a disk backup:

    a. Switch to the **Steps** tab.

    b. Select **Edit**.

    c. In the Command field, type **exec sp_backup_database @dump_device_name='disk_backup1'**.

    d. To apply the change, click **OK**.

12. To close the Job Properties dialog, click **OK**.

13. Exit the SQL Server Management Studio.

9. Migrating data from the training server
(Topic number: 10237)

If you have configured worklists during the preparing to upgrade period, you can migrate these from the training server to the migrated database, instead of re-creating them. If you have migrated reports onto the training server, you can also migrate this data to the migrated database.

1. Taking the training server offline
(Topic number: 10239)

Before migrating data from the training server system, take the system offline.

To take the training server offline

1. On the training server system, launch the Administration Tools and log in as the **service** user.

2. On the Daily tab, select **Job Manager**.

3. Select **All Queues**.

4. Click **Halt Queue**.

5. Monitor each **Transmit** queue and wait for all outgoing jobs to finish.

    You cannot delete jobs in progress.

6. Select each Transmit queue and click **Halt Queue**.

7. To confirm that you want to halt the queue, click **Yes**.

8. To stop and disable all IMPAX services:

    a. Open a command prompt.

    b. Change to the **C:\mvf\bin** directory.

    c. Type **stopall.bat**.

    d. Type **removeall.bat**.

e. Exit the command prompt.

　9. To prevent Client interaction, open the Windows Administrative Tools and select **Services**. Stop the **World Wide Web Publishing Service (IIS)**.

2. Backing up the training server database
(Topic number: 10241)

Before migrating data from the training server system, back up the database.

> **⚠ CAUTION!**
>
> To mitigate the risk of selecting the wrong database when migrating worklist data and overwriting the training server database data, back up the training server database before migrating data from it.

To back up the training server database

1. Log into the training server as the **AgfaService** user.

   If you do not know the AgfaService password, you can run the passkey utility to find it: **passkey -M QUERY -u AgfaService**.

2. Stop the database by stopping the OracleServiceMVF Windows service.

3. From the C:\oracle\product\11.2.0\db_1\db_1\database directory, copy the **PWDMVF.ora** and **spfileMVF.ora** to a different system.

4. Determine where the data files are located; for example, in E:\data\dbase.

5. Copy the entire **dbase** folder to a different system.

3. Installing Oracle 10.2.0.1 OLE drivers on the Application Server
(Topic number: 114114)

If you are migrating worklist or report data from an Oracle database to a SQL Server database, you must install Oracle 10.2.0.1 OLE drivers on the Application Server before starting the worklist or report migration. (The MigrateTRServer tool is not compatible with Oracle 11.2.0.2, the version of Oracle used by IMPAX 6.5.3.)

To install Oracle 10.2.0.1 OLE drivers on the Application Server

1. Unzip the 10201_client_win32.zip file.

2. Run the unzipped Oracle 10g Client installer.

3. To open the Universal Installer, click **Install**.

4. In the Welcome dialog, click **Next**.

5. In the Select Installation Type dialog, select **Custom**, then click **Next**.

6. In the Specify Home Details dialog, change the path as needed and click **Next**.

7. In the Available Product Components dialog, select **Oracle Objects for OLE 10.2.0.1.0**, **Oracle ODBC Driver 10.2.0.1.0**, and **Oracle Provider for OLE DB 10.2.0.1.0** only.

8. Click **Next**.

9. Click **Next** again, then click **Install**.

After installation, create a tnsnames.ora file in the C:\oracle\product\10.2.0\client_1\NETWORK\ADMIN directory and add the following code to the file:

```
mvf_ts.world =
(DESCRIPTION =
(ADDRESS_LIST =
(ADDRESS = (COMMUNITY = impax.world)(PROTOCOL = TCP)(HOST =
name_of_training_server)(PORT = 1521)))
(CONNECT_DATA =
(SID=MVF)
))
```

4. Migrating worklist and report data
(Topic number: 10243)

> **Note:**
>
> This topic assumes that the training server is running Oracle, while the production server is running SQL Server.

Before migrating data from the training server to the server where the database was upgraded, ensure that you have completed the following tasks:

- Installed the Migration Tools on the Application Server component of the training server cluster

- Created the pre-migration schema on the Database Server component of the training server cluster

- If necessary, followed the procedure in *Installing Oracle 10.2.0.1 OLE drivers on the Application Server* (refer to page 33)

You can now migrate worklist data, report data, or both from the training server to the server where the database was upgraded.

> **Important!**
>
> To ensure that failures do not occur, do not leave tools such as SQLPlus, WinSQL, or Isql connected to the MVF database (both the source and target MVF) when migrating worklist data.

To migrate worklist and report data

1. On the Application Server, launch the Migrate training/traveling server data tool by running the **C:\mvf-mig6\MigrateTRServer\MigrateTRServer.exe** file.

2. If migrating worklist data, select the **Migrate Worklist Data** checkbox.

3. If migrating report data, select the **Migrate Report Data** checkbox.

! **CAUTION!**

This utility overwrites reports on the destination server. Do not migrate report data from a training server unless that server was receiving all patient, study, and report updates—therefore acting as a production server for reports.

---

4. Under Source, supply the database information for the training server, as follows:

   a. Click **Modify**. `...`

   b. In the Data Link Properties dialog, select **Oracle Provider for OLE DB**. Click **Next**.

   c. In the Data Source field, type **mvf_ts.world** or the name of the tns entry in the tnsnames.ora file.

   d. Select **Use a specific name and password** and type the database user name—normally **dbadmin**.

   e. Click **OK**.

   f. In the Migrate training/traveling server data dialog, type the database password.

5. Under Destination, supply the database information for the production server (the upgraded IMPAX 6.5.3 server) as follows:

   a. Click **Modify**. `...`

   b. In the Data Link Properties dialog, select **Microsoft OLE DB Provider for SQL Server**. Click **Next**.

   c. In the Data Source field, type mvf_ts.world or the name of the tns entry that was created in tnsnames.ora.

   d. Select **Use a specific name and password** and type the database user name—normally **sa**.

   e. In the Select the database on the server field, type **mvf**.

   f. Click **OK**.

   g. In the Migrate training/traveling server data dialog, under Destination, type the database password.

6. If you have defined Source and Destination information for worklists and also need to migrate report data, under Reports, define the Source and Destination database information by following step 4 and step 5.

7. When all appropriate Source and Destination information is filled in, click **Migrate Data**.

A DTSResults dialog opens showing the result of the data migration from the training to the production server. Scan it for any ERROR messages that you need to resolve.

8. When the migration is complete, close the DTSResults dialog.

The Application Server caches the ref for the worklists. To update the refs from the migrated worklists, perform an IISRESET of the Application Server; otherwise, when creating worklists, failures will occur.

Training server worklist or report data or both are now included in the production server database.

If you have migrated reports—not just worklists—you must next go to the Application Server, open the Business Services Configuration Tool, switch to the **Web Services** tab, and verify that the Report Info Sources settings are correct. For more information about these settings, refer to "Report source types: Reference" (topic number 11335) and "Modifying the settings of a report source" (topic number 11338) in the *IMPAX 6.5.3 Application Server Knowledge Base*.

10. Generating the AS300 portable password file

(Topic number: 7694)

To install the other components, you must generate a password file from the Database Server to synchronize passwords between the components. The file contains all of the user IDs and passwords for all default IMPAX users. The file must be copied to other components as requested during those installations.

To generate the AS300 portable password file

1. On the Database Server, open a command prompt.

2. Change to the **C:\mvf\bin** directory.

3. Type

   passkey -M EXPORT -k *temporary_password*

   where *temporary_password* is the password used to import the password file when installing or configuring the other components.

The password file is created in C:\mvf\mvf.portable.psd.

!   **CAUTION!**

The mvf.portable.psd file contains sensitive information. To ensure that the security of the system is maintained, delete the password file after all required components are installed.

Upgrading the other IMPAX 6.5.3 components

4

To complete the upgrade to IMPAX 6.5.3, other components in the cluster such as the Network Gateway and Archive Server must be upgraded.

1. Upgrading AS300 Network Gateways and Archive Servers

(Topic number: 60463)

If using AS300 (Windows-based) Network Gateways or Archive Servers at your site, these must be upgraded to IMPAX 6.5.3 as well.

Note:

The IMPAX 6.5.3 AS300 server platform is Windows Server 2008 R2 SP1. If necessary, existing servers can be restaged with this operating system, assuming that the hardware is 64-bit compatible. All upgrades are forklift upgrades and involve fresh installations onto restaged or new hardware. For more details, refer to the *IMPAX 6.5.3 AS300 Installation and Configuration Guide*.

Prior to a forklift upgrade of an IMPAX AS300 Network Gateway, Archive Server, or Curator, any critical files should be backed up to an appropriate location. During the upgrade itself, the files on the new server can be compared with that of the old server.

2. Installing and configuring Store and Remember archiving

(Topic number: 15546)

Some sites may want to have their studies mirrored at another site through PACS Store and Remember archiving. This mirroring protects against loss of data and allows studies from one PACS to be viewed at another. This can be achieved effectively using the PACS Archive Provider (PAP).

For instruction on installing and configuring a PACS Archive Provider, refer to "Configuring a PACS Archive Provider (PAP)" (topic number 11586) in the *IMPAX 6.5.3 AS300 Installation and Configuration Guide.*

Reconfiguring the Application Server and Curator

5

After the Server components are upgraded, you must configure the Application Server to work with the production server instead of the training server and possibly convert the training server into a Curator.

1. Reconfiguring the Application Server

(Topic number: 6809)

During the preparing to upgrade period, the station intended to serve as the new Application Server for the site is connected to a temporary AS300 single-host station. (This configuration option is described in the "Installing a training server cluster" section of the *AS300 Preparing to Upgrade Guide—IMPAX 4.5, 5.2, 5.3, or WEB1000 to IMPAX 6.5.3*; also see the Training server configurations diagram.)
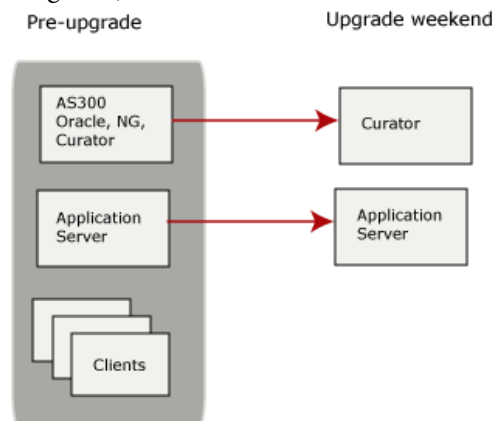
User migrations and configurations are performed on the Application Server (as described in the *AS300 Preparing to Upgrade Guide—IMPAX 4.5, 5.2, 5.3, or WEB1000 to IMPAX 6.5.3*) and worklist and report data can be migrated from the training server (described in *Migrating data from the training server* (refer to page 32)).

After all these migrations are complete, reconfigure the Application Server to connect to the production database instead of the training server. Several steps are required:

1. Disable the connection to the temporary IMPAX 6.5.3 database, to the IMPAX 5.2 or 5.3 database and, if applicable, to the WEB1000 Server.

2. Connect to the production IMPAX 6.5.3 database.

3. Import the portable password file generated from the production 6.5.3 Database Server.

4. Set the password and account lockout policies.

5. Connect to a non-queryable RIS and remove an IP address from the IP filtering list.

   To connect to another type of RIS (local or remote Agfa RIS or a queryable RIS), refer to instructions in the *IMPAX 6.5.3 Application Server Knowledge Base*.

6. Perform other Application Server configurations that could not be completed during the preparing to upgrade period, such as managing web services, setting up Healthcheck, and managing SSL certificates.

Details on each of these steps follow.

1. Disabling SQL connections
(Topic number: 6802)

The Application Server is currently configured to communicate with the IMPAX 5.2 or 5.3 SQL Server database. Disable the connections to those servers, and to the WEB1000 Server station, if you have set that up.

To disable SQL connections

1. On the Application Server, open the Windows Administrative Tools and select **Data Sources** (**ODBC**).

2. Switch to the **System DSN** tab.

3. Select the name of the IMPAX 5.2 or 5.3 database.

4. Click **Remove**. Confirm the removal.

5. If a connection to the WEB1000 Server was set up, select the name of that database and click **Remove**. Confirm the removal.

6. Click **OK**.

2. Connecting to the IMPAX 6.5.3 SQL Server database
(Topic number: 6811)

You must now configure the Application Server for the migrated IMPAX 6.5.3 database.

To connect to the IMPAX 6.5.3 SQL Server database

1. On the Application Server, select **Start** > **All Programs** > **Agfa Healthcare** > **Business Services** > **Configuration Tool**.

2. In the IMPAX Business Services Configuration tool, switch to the **Database** tab.

3. Under Database Type, select **SQL Server**.

4. Under Database Connection Settings, type the SQL Server Database Server name.

5. Click **Configure ODBC**.

6. In the ODBC Data Source Administrator dialog, switch to the **System DSN** tab.

7. Click **Add**.

8. In the Create New Data Source dialog, select **SQL Server**. Click **Finish**.

9. In the Create a New Data Source to SQL Server dialog, in the Name field, type **mvf_sql**.

10. In the Description field, type **mvf**.

11. From the Server list, select the name of the SQL Server. Click **Next**.

12. Click **SQL Server Authentication**.

13. Ensure that the **Connect to SQL Server to obtain** checkbox is selected.

14. In the Login ID field, type **mvf**.

15. In the Password field, type **mvf**.

16. Click **Client Configuration**.

17. In the Add Network Library Configuration dialog, ensure that **TCP/IP** is selected. Click **OK**.

18. Click **Next**.

19. Select the **Change the default database to** checkbox.

20. From the list, ensure that **mvf** is selected. Click **Next**.

21. Clear the **Perform translation for character data** checkbox. Click **Finish**.

22. To test the connection, click **Test Data Source**.

23. When prompted that the connection was successful, click **OK**.

24. To close the ODBC Microsoft SQL Server Setup dialog, click **OK**.

25. To close the ODBC Data Source Administrator dialog, click **OK**.

26. In the IMPAX Business Services Configuration tool, click **Test**.

27. If the message `Connection to SQL Server database successful` appears, click **OK**.

    If the test fails, verify that the SQL Server Name is correct and test the connection again.

28. Click **Apply**.

3. Importing the portable password file to the Application Server
(Topic number: 6877)

You must now import the portable password file generated from the migrated IMPAX 6.5.3 Database Server to the Application Server.

To import the portable password file to the Application Server

1. Select **Start** > **All Programs** > **Agfa Healthcare** > **Business Services** > **Configuration Tool**.

2. In the IMPAX Business Services Configuration tool, switch to the **Security** tab.

3. Click **Import Password**.

4. Navigate to the mvf.portable.psd file and click **Open**.

5. At the prompt, enter the temporary password identified when creating the portable password. Click **OK**.

6. At the confirmation message, click **OK**.

7. Click **Apply**.

⚠ CAUTION!

The mvf.portable.psd file contains sensitive information. To maintain the security of the system, delete the password file after all required components are installed.

---

4. Setting the password and account lockout policies
(Topic number: 6853)

To perform the user migrations, the password and account lockout policies were disabled. You can now reset these according to the site's IT department policies.

For information on what these policies are and how to reset them, refer to "Setting the password and account lockout policies" (topic number 11372) and "Password and account lockout policies: Reference" (topic number 11366) in the *IMPAX 6.5.3 Application Server Knowledge Base*.

5. Connecting the Application Server to a non-queryable non-IMPAX RIS
(Topic number: 11343)

A non-queryable RIS supports only one-way communication between the RIS and IMPAX. A non-queryable RIS sends unsolicited HL7 messages for orders and reports to the Connectivity Manager, and the Connectivity Manager parses the HL7 messages and sends them to the IMPAX database for storage. To display the information available from a non-queryable RIS in the IMPAX Client Text area, connect to a non-queryable RIS through the Connectivity Manager.

Note:

To connect to another type of RIS (local or remote IMPAX RIS or a queryable RIS), refer to instructions in the *IMPAX 6.5.3 Application Server Knowledge Base.*

To connect the Application Server to a non-queryable non-IMPAX RIS

1. Configure the custom RIS mappings in Connectivity Manager.

2. Open the Business Services Configuration Tool.

3. Switch to the **Web Services** tab.

4. In the Report Info Sources area, click **Add**.

5. To check the value of the requesting_service field in the Connectivity Manager database, type

   use mcf;

   select distinct requesting_service from mcf_service_request;

   If this query returns a single value, make note of it. If this query returns multiple values for the requesting_service field, consult a Connectivity Manager integrator, as mappings may also have to be changed. If this Connectivity Manager receives data from multiple report sources, there may be several requesting_service values that match each report source.

6. In the Edit Report Source dialog, type the requesting_service value returned in the previous step into the Report Source Provider field.

   This field is case-sensitive. A maximum of 64 characters can be entered in this field.

7. From the RIS Type list, select **Connectivity Manager Non-Queryable RIS**. Click **OK**.

8. Under Connectivity IP Filtering, in the Grant Access to IP field, type the IP address of the Connectivity Manager and click **Add**.

   If the Connectivity Manager uses a proxy server, type the IP address of the proxy server. To specify multiple IP addresses, separate each with a comma.

9. To close the Business Services Configuration Tool, click **OK**.

6. Performing other Application Server configurations
(Topic number: 6858)

At this point, you can complete any other Business Service configurations you could not complete during the preparing to upgrade period, such as managing web services, setting up Healthcheck, and configuring the image upload server. For details on these configurations, refer to the *IMPAX 6.5.3 Application Server Knowledge Base.*

2. Reconfiguring the Curator

(Topic number: 10172)

For IMPAX 5.2 or 5.3 upgrades, the Curator station has likely been set up as a single-host station, for use as part of the training server cluster during the preparing to upgrade period. In this case, you must update the AS300 software to remove the packages specific to a single-host server and add the packages needed by a Curator server.

If the Curator was not initially set up as a single-host station, you can install Curator now by following the procedures in the *IMPAX 6.5.3 Curator and CD Export Server Installation Guide.*

1. Uninstalling Oracle on Windows

(Topic number: 135325)

Oracle Server is no longer required on the Curator server (though Oracle Client is, if using an Oracle database). Remove the Oracle Server software.

To uninstall Oracle on Windows

1. Before uninstalling Oracle, store the following database files (actual directories at a site may be different) to another location such as a Samba share.

> ⮕ **Important!**
>
> Critical files may be removed during the uninstallation.

Directory	File	Description
E:\data\dbase	All files under this directory	Oracle data files and control files
F:\data\dbase\arch	All files under this directory	Archived redo logs
F:\data\flashback	All files under this directory	Flashback logs, archived redo logs (when Data Guard is configured)
C:\oracle\product\11.2.0\db_1\database	spfileMVF.ora	Oracle binary initialization parameter file
	pwdmvf.ora	Oracle password file
	dr1mvf1.dat	Oracle Data Guard configuration file (when Data Guard is configured)

Directory	File	Description
	dr2mvf1.dat	Oracle Data Guard configuration file (when Data Guard is configured)
	dr1mvf2.dat	Oracle Data Guard configuration file (when Data Guard is configured)
	dr2mvf2.dat	Oracle Data Guard configuration file (when Data Guard is configured)
C:\oracle\product\11.2.0\db_1\network\admin	tnsnames.ora	Oracle naming configuration
	listener.ora	Oracle listener configuration
	sqlnet.ora	Oracle SQL*Net configuration

2. Open a command prompt and change to the **C:\oracle\product\11.2.0\db_1\deinstall** directory.

3. Type

   deinstall

4. At the `Specify the list of database names that are configured in this Oracle home [MVF]` prompt, to accept the default, press **Enter**.

5. At the `Specify the type of this database (1.Single Instance Database|2.Oracle Restart Enabled Database) [1]` prompt, to accept the default, press **Enter**.

6. At the `Specify the diagnostic destination location of the database [c:\oracle\diag\rdbm s\mvf]` prompt, to accept the default, press **Enter**.

7. At the `Specify the storage type used by the Database ASM|FS []` prompt, type

   FS

8. At the `Specify the list of directories if any database files exist on a shared file system....[]` prompt, to accept the default, press **Enter**.

9. At the `Specify the fast recovery area location, if it is configured on the file system. If 'MVF' subdirectory is found, then it will be deleted. []` prompt, to accept the default, press **Enter**.

10. At the `Specify the database spfile location []` prompt, type

    C:\oracle\product\11.2.0\db_1\database \spfileMVF.ora

    Check and clean operations run. A summary of the clean operation is displayed.

11. Exit the command prompt and the delete the **c:\oracle** directory.

2. Modifying the IMPAX 6.5.3 AS300 installation packages
(Topic number: 7605)

If the Curator station was initially staged as an IMPAX 6.5.3 AS300 single-host station during the pre-upgrade period, change the AS300 software installation to remove the database packages and add the Curator packages.

To modify the IMPAX 6.5.3 AS300 installation packages

1. Ensure that the training server (the future Curator station) is offline (refer to page 32).

2. Open Control Panel.

3. Depending on the version of Windows, select **Add or Remove Programs** or **Programs and Features**.

4. Under Currently installed programs, select **AGFA IMPAX AS300**.

5. Click **Change**.

6. At the prompt, type your name and click **Next**.

7. At the Welcome dialog, select **Modify**. Click **Next**.

8. Clear the checkboxes of all AS300 packages other than **MVFCore**, **MVFCurator**, and **MVFcdexport**.

   Where a single-host Database Server has almost all available AS300 packages installed, a Curator server requires only these three packages.

9. Click **Next**.

10. In the Maintenance Complete dialog, select **Yes, I want to restart my computer now** and click **Finish**.

11. If no longer required on this server, you can also delete any Server license files stored in the C:\mvf directory.

    Licenses are required if the MVFNetworkGateway package is installed, or if the server is being used for archiving (HSM or PACS Store and Remember).

3. Setting up the Curator web cache
(Topic number: 7029)

If you did not create a web cache for Curator when you configured the Database Server, create the web cache now. The cache must be created from the Database Server.

> **Note:**
>
> For Autopilot to correctly monitor cache space, each cache must be on its own partition.

Although multiple Curators may be installed, each Curator places web representations of objects into the same web cache. This web cache is owned by the master Curator and is managed by the Autopilot running on the master Curator.

1. Creating a web cache volume
(Topic number: 7069)

You must manually create cache folders on the system. You can then configure the cache volume in Administration Tools on the Database Server.

To create a web cache volume

1. On the Database Server, log into the Administration Tools.

2. Click **Cache Manager**. 🖥

3. Click **New Cache Volume**. 🖥

4. Select **Web Cache**.

5. From the Station list, select the station where the master Curator is installed.

6. In the Path field, type the path for the new cache volume.

   • Specify the cache location using a UNC path.

   • Do not use a trailing slash or backslash at the end of the volume path, because this can create problems when retrieving images from the cache. For example, do not type **\\server\WEBCACHE1**; instead, type **\\server\WEBCACHE1**.

   • All caches on the system (image and web) must be shared. Shared caches are specified without the volume letter; for example, instead of **\\server\f$\CACHE1**, type **\\server\CACHE1**.

   • If cache volumes are assigned to a subdirectory on a partitioned hard drive, the values shown in the Available and Occupied columns in Cache Manager refer to the entire partition, not the subdirectory.

7. Click **Add**.

8. In the Warning dialog, verify that the path is correct and click **Yes**.

2. Configuring cache folder permissions for remote caches and NAS
(Topic number: 7068)

If the cache is hosted remotely or if you are setting up network area storage (NAS), after the cache is created, create a user account for the ImpaxServerUser on the system hosting the cache.

To configure cache folder permissions for remote caches and NAS

1. On the Database Server, open a command prompt or terminal window.

2. Change to the **C:\mvf\bin** (Windows) or **/usr/mvf/bin/** (Solaris, logged in as root user) directory.

3. To obtain the password for the ImpaxServerUser, type

    passkey -M QUERY -u ImpaxServerUser (Windows)

    or

    ./passkey -M QUERY -u ImpaxServerUser (Solaris)

    This password is used for the ImpaxServerUser account on the remote machine.

4. If the remote web cache is hosted on a Windows-based system, log into the machine as an administrator-level user. Using the built-in Windows 2008 Server security configuration, create an account for the ImpaxServerUser that uses the same password as the account on the Database Server.

    If the web cache is hosted on a Solaris-based system, install and configure a sub process such as NFS or SAMBA.

5. If an ImpaxServerUser account cannot be used on the remote cache but rather a domain user must be used, create the domain user and add this user to the ImpaxServerGroup on the IMPAX machines requiring access (for example, the Curator). Update the IMPAX services to log in as this new domain user.

3. Configuring web cache folder permissions
(Topic number: 7077)

If the Curator web cache is on a Windows folder location, to ensure that the cache is accessible, give the ImpaxServerGroup account full read, write, and execute permissions on the cache folder.

To configure web cache folder permissions

1. In Windows Explorer, navigate to the location of the cache.

    a. Right-click the cache folder and select *Cache Folder* **Properties**.

    b. Switch to the **Sharing** tab.

    c. Click **Advanced Sharing**.

2. Select the **Share this folder** checkbox.

3. Click **Permissions**.

4. Select **Everyone**.

5. Select the **Allow** checkbox for the Read permission.

    All other checkboxes should be cleared.

6. Click **Add**.

    The Select Users, Computers, Service Accounts, or Groups dialog opens.

7. In the Enter the object names to select field, type *hostname***\ImpaxServerGroup**.

    For example, type **Bombay\ImpaxServerGroup**.

8. Click **Check Names**.

9. If the names are not found, click **Advanced**, and click **Find Now**. Select the **ImpaxServerGroup** account and click **OK**.

10. To close the Select Users, Computers, Service Accounts, or Groups dialog, click **OK**.

11. In the Permissions for *Cache Folder* dialog, select **ImpaxServerGroup**.

12. Select the **Allow** checkbox for the Full Control, Change, and Read permissions.

13. Click **OK**.

4. Preparing the web cache
(Topic number: 10178)

Using CLUI, you can prepare the last few weeks of studies, so that recent wavelets are readily available in the Curator web cache. You can do this by date range or based on a list of study references.

Preparing studies within a date range
(Topic number: 58333)

One way to prepare studies in the web cache is to specify them by date range.

To prepare studies within a date range
1. To store all study_refs into variable *a*, in CLUI, type

    save_refs a select study_ref from dosr_study where study_date >= '*start_date*' and study_date <= '*end_date*'

    where the date format to use is *yyyymmdd*; for example, **20120928** for 28 September 2012.

2. To enter menu mode, type **Go menu**.

3. Select **1** for Study Manager.

4. Select **5** for Prepare Study.

5. At the prompt for the list of studies to process, enter **a** to reference the save_refs list of studies.

Preparing studies based on a list of study references
(Topic number: 58336)

Another way to prepare studies for the Curator web cache is to specify them based on study reference.

To prepare studies based on a list of study references
1. In CLUI, specify the files to prepare with this command:

    study prepare *study_ref_1 study_ref_2... study_ref_n*

In both cases, a set of PREPARE jobs is created to be processed over time.

5. Performing other Curator configurations

(Topic number: 60423)

Depending on site requirements, other Curator configurations may be required, or slave Curators may need to be installed. For details on these, refer to the *IMPAX 6.5.3 Curator and CD Export Server Installation Guide* and the Curator component of the *IMPAX 6.5.3 Server Knowledge Base.*

Completing the upgrade and migration

6

To complete the migration, Clients need upgrading, and various other configurations must be performed.

1. Configuring the Audit Record Repository database connection

(Topic number: 32237)

After installing or upgrading the database and adding an Audit Record Repository, you must update certain entries in the database to ensure that auditing functions correctly.

To configure the Audit Record Repository database connection

1. On the IMPAX Database Server, open a command prompt or terminal window.

2. Change to the **C:\mvf\bin** (AS300) or **/usr/mvf/bin** (AS3000, logged in as mvf user) directory.

3. Type **clui**.

4. To check if the entry already exists in the database, type

   select * from map_ini where ini_key='ARR_INSTALLED' and ini_section='MAP_EVENT'

5. If the entry exists, to update the entry, type

   update map_ini set ini_value='T' where ini_key='ARR_INSTALLED' and ini_section='MAP_EVENT'

   or

   If the key does not exist, to insert it, type

   insert into map_ini (ini_section,ini_key,ini_value) values ('MAP_EVENT','ARR_INSTALLED','T')

The Application Server must also be connected to the Audit Record Repository. For details, see "Connecting IMPAX Application Server to Audit Manager" (topic number 11444) in the *IMPAX 6.5.3 Application Server Installation, Upgrade, and Configuration Guide.*

2. Configuring Data Execution Prevention (DEP)

(Topic number: 7192)

Data Execution Prevention (DEP) is on by default for all Windows programs. DEP is designed to help prevent damage from viruses and other security threats by marking some memory locations non-executable so that malicious code cannot be executed from memory locations that only Windows and other programs should use. This increased security, however, can cause problems with some programs that require this memory space, including IMPAX. If DEP remains on, you may encounter problems with Curator, ddo_store, or CD burns, among other features.

Note:

To successfully configure DEP, the directory C:\mvf\bin must already exist. Also, not every executable listed in step 7 may appear in the directory.

To configure Data Execution Prevention (DEP)

1. Right-click **Computer** and select **Properties**.

2. Under Tasks in the left pane, select **Advanced system settings**.

3. If not selected, switch to the **Advanced** tab.

4. Under Performance, click **Settings**.

5. Switch to the **Data Execution Prevention** tab.

6. In the Performance Options dialog, select **Turn on DEP for all programs and services except those I select**.

7. For each IMPAX executable in the list that follows, click **Add**, navigate to C:\mvf\bin, select the executable, and click **Open**:

   - **curator.exe**

   - **ddo_create.exe**

   - **ddo_store.exe**

   - **mvf_scp.exe**

   - **mvf_scu.exe**

   - **mvf_compressor.exe**

   - **mvf_autopilot.exe**

8. Click **OK** and close all open dialogs.

9. Restart the system.

When the server restarts, log into Windows as an administrator-level user.

3. Migrating a cache volume from a flat to a hierarchical structure

(Topic number: 102251)

Before starting the migration, verify the condition of the caches:

1. Install the MVFcachecheck package.

2. Run the mvf-clean-cache tool.

3. If the mvf-clean-cache output indicates that there are problems, resolve them.

IMPAX stores DICOM objects in cache so that they can be displayed, transmitted to other DICOM devices, and archived. Prior to IMPAX 6.5, the cache structure was flat (each cache volume contained one directory), which limited the cache size, because once a certain number of objects were in the directory, access to the cache could become slow. Large sites have resolved this by deploying numerous cache volumes, which can be difficult to manage.

As of IMPAX 6.5, a hierarchical cache structure is supported for image and web caches, permitting larger cache volumes. The old flat cache structure continues to be supported; only new images arriving in the system or existing images retrieved from archive are written to cache using the hierarchical structure. However, the cache migration tool allows a site to migrate its existing caches to this hierarchy if it would like to immediately take advantage of the hierarchical structure.

Note:

The cache migration tool is included in the MVFCache (Windows) and IMPAXmvfc (Solaris) packages, which are part of the standard IMPAX install packages.

To migrate a cache volume from a flat to a hierarchical structure

1. At a command prompt on the system where the cache volume is local, type

   cache_migration.exe [**-S** *source_cache_volume* **-D** *destination_cache_volume* **-X** *delay_in_seconds* **-F** *number_of_files* **-T** *number_of_threads* **-I** *time_in_minutes* **-f** *log_file*]

Parameters	Values	Default value
-S *source_cache_volume*	The cache volume to migrate from. If the destination volume is different from the source volume, ensure that the source cache volume is closed before running the cache-migration tool. When closed, new images cannot be received by this volume, which will likely be removed after the migration.	Not applicable. If not specified, you are prompted to choose from a list.

Parameters	Values	Default value
	To close the cache volume, start the CLUI tool and type **cache close *volume_ref***	
-D *destination_cache_volume*	The cache volume to migrate to. It can be the same as the source volume. There should be enough space in the destination volume for all the studies in the source volume.	Not applicable. If not specified, you are prompted to choose from a list.
-X *delay_in_seconds*	The amount of time in seconds before the original files are deleted. If not specified, the original files are not deleted. If 0, the original files are deleted immediately.	Not applicable
-F *number_of_files*	The maximum number of cache files to be handled by each thread in the application; a performance-tuning parameter.	100
-T *number_of_threads*	The number of threads that handle the copying of files; a performance-tuning parameter.	3
-I *time_in_minutes*	How often to report on the progress of the migration, in minutes.	5
-f *log_file*	Log file name	Not applicable

⁑ **Tip:**

> Use the **-?** parameter to view usage or help information.

Example:

```
cache_migration.exe –F 500 –T 4 –I 2 –f migration.log
List of eligible cache volumes
1000 : /cache/mvfcache
1001 : /cache/vcacheRSNA2003
1002 : /cache/newcache
Source volume_ref? 1000
Destination volume_ref? 1000
Delete original files (Y/N)? y
How long to wait to delete (sec)? 10
```

After the migration, verify the condition of the caches:

1. Run the mvf-clean-cache tool.

2. If the mvf-clean-cache output indicates that there are problems, resolve them.

For details about configuring the cache directory structure, see "Configuring the hierarchical cache directory structure" (topic number 102687) in the *IMPAX 6.5.3 Server Knowledge Base*.

4. Changing the SQL Server administrator (sa) password

(Topic number: 7738)

> ◉ **Important!**
>
> This topic applies only to Database Servers (including single-host, standalone, and single-server configurations).

The IMPAX installation changes the default sa password to a randomly generated string of characters. This greatly increases the security of the system; however, the password can still be obtained through other methods.

To ensure that your system is as secure as possible, we recommend updating the sa password to a strong password that is known only by the site administrator.

> ▤ **Note:**
>
> Do this only after the Application Server software has been installed and configured.

To change the SQL Server administrator (sa) password

1. On an IMPAX Database Server, log in using the AgfaService account.

2. Open a command prompt.

3. Change to the **C:\mvf\bin** directory.

4. To find out what the current sa password is, type

   passkey -M QUERY -u sa -r c:\mvf\mvf.psd

5. To update the password, type

   sqlcmd -U sa -P *password* -d master -Q "*sp_password* '*old_password*', '*new_password*', 'sa'"

   A message indicates that the password was changed.

6. To set the sa password in passkey, type

   passkey -M SET -u sa -P *new_password*

7. To log out, type **exit**.

5. Synchronizing clocks on Windows-based IMPAX systems

(Topic number: 6752)

If the system time on the Application Server and the image server (ASPFTP server) differs, the authentication tickets provided by the IMPAX Client are rejected by the ASPFTP server and image retrieval fails. You must configure the IMPAX systems to automatically synchronize their system time with a common server and remain synchronized.

> **Note:**
>
> Also ensure that the time zone for the computer is set correctly to indicate the time zone where the system is located.

The instructions that follow use the synchronization feature built into the operating system. When configured, Windows Time Service sets and synchronizes the system time with a standard time server.

Synchronizing Windows servers to an external time source
(Topic number: 58717)

Synchronize the Windows Server 2008 R2 servers on your network to an external time source to ensure that image data streaming operates correctly.

> **CAUTION!**
>
> Serious problems might occur if you modify the registry incorrectly. These problems might require that you reinstall your operating system and we cannot guarantee that these problems can be solved.
>
> We recommend that you back up the registry before you change it, so that you can back out the changes, if necessary.

To synchronize Windows servers to an external time source

1. To open Registry Editor, select **Start** > **Run**, type **regedit**, and click **OK**.

2. To change the synchronization server to NTP, in the **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\Parameters\Type** subkey, change the REG_SZ value from NT5DS to **NTP**.

3. To specify if the local machine is a local time server, in the **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\Config\AnnounceFlags** subkey, change the REG_DWORD value to **5**.

4. To enable the NTPServer, in the **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\TimeProviders\ NtpServer\Enabled** subkey, change the REG_DWORD value to **1**.

5. To specify where the computer obtains time stamps, in the **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\Parameters\ NtpServer** subkey, enter the list of DNS names or IP addresses.

   If you use DNS names, append **,0x1** to the end of each DNS name.

6. To set the poll interval, in the **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\TimeProviders\ NtpClient\SpecialPollInterval** subkey, change the REG_DWORD value to the number of seconds between each poll.

   The recommended value is **900** Base **Decimal**, which polls the time server every 15 minutes.

7. To specify the maximum positive difference that triggers a synchronization, in the **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\Config\ MaxPosPhaseCorrection** subkey, change the REG_DWORD value to the maximum number of seconds.

   The recommended value is **3600** Base **Decimal**.

8. Similarly, to specify the maximum negative difference that triggers a synchronization, in the **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\Config\ MaxNegPhaseCorrection** subkey, change the REG_DWORD value to the maximum number of seconds.

9. Exit the Registry Editor.

10. To stop and restart the Windows Time server, at a command prompt, type **net stop w32time && net start w32time**.

   It may take up to an hour for this to take effect.

For more information, refer to the Microsoft Knowledge Base article KB 816042 (http://support.microsoft.com/kb/816042).

Synchronizing Windows servers to an internal time source
(Topic number: 58720)

Synchronize the Windows Server 2008 R2 servers on your network to ensure that image data streaming operates correctly. To configure the Primary Domain Controller (PDC) master without using an external time source, change the announce flag on the PDC master. Choose either the Application Server or the AS300 server as the PDC master and sync the other servers to it.

⚠ **CAUTION!**

Serious problems might occur if you modify the registry incorrectly. These problems might require that you reinstall your operating system and we cannot guarantee that these problems can be solved.

We recommend that you back up the registry before you change it, so that you can back out the changes, if necessary.

To synchronize Windows servers to an internal time source

1. To open Registry Editor, select **Start** > **Run**, type **regedit**, and click **OK**.

2. To specify if the local machine is a local time server, in the **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\Config\AnnounceFlags** subkey, change **REG_DWORD** to **A**.

3. Exit the Registry Editor.

4. To stop and restart the Windows Time server, at a command prompt, type **net stop w32time && net start w32time**.

   It may take some time for this to take effect.

📄 **Note:**

Do not configure the PDC master to synchronize with itself.

Synchronizing with a time server when the IMPAX computer is not a member of a domain
(Topic number: 58572)

To ensure that image data streaming operates correctly when the IMPAX computer is not a member of a domain, use the synchronization feature built into the operating system.

To synchronize with a time server when the IMPAX computer is not a member of a domain

1. Open Control Panel.

2. Select **Date and Time**.

3. Switch to the **Server Internet Time** tab.

4. In the list, type or select the time server to synchronize with.

Synchronizing with a time server when the IMPAX computer is a member of a domain
(Topic number: 58569)

To ensure that image data streaming operates correctly when the IMPAX computer is a member of a domain, use the synchronization feature built into the operating system.

To synchronize with a time server when the IMPAX computer is a member of a domain

1. Open a command prompt.

2. Type

   w32tm /config /syncfromflags:manual /manualpeerlist:*time_server*

   where *time_server* is the DNS name or IP address of the time server. The *time_server* can be any Windows- or Solaris-based server.

3. To update Windows Time Service to use the new configuration, type

   w32tm /config /update

4. To synchronize the clock, type

   w32tm /resync

6. Upgrading Clients to IMPAX 6.5.3

(Topic number: 10176)

IMPAX Clients, both local and remote, are used to view study images. The Client software can be installed on any appropriate, networked workstation and be used by anyone who has a valid license. At least one Client should be upgraded to IMPAX 6.5.3 for migration testing purposes.

⊕ **Important!**

After upgrading IMPAX, you must enable any scheduled worklists to add them to the IMPAX 6.5.3 Client List area. In the List area, click **Worklists**. In the Active column next to the worklist, select the checkbox for each worklist to display, then press **Enter**.

For more details, refer to "Adding worklists to the List area" (topic number 8433) in the *IMPAX 6.5.3 Client Knowledge Base: Extended.*

---

1. Manually uninstalling the IMPAX 5.2 or 5.3 Client software
(Topic number: 51525)

IMPAX 5.2 or 5.3 Client software must be uninstalled before the IMPAX 6.5.3 Client software can be installed.

To manually uninstall the IMPAX 5.2 or 5.3 Client software

1. Open Control Panel.

2. Select **Add or Remove Programs**.

3. Under Currently installed programs, select **IMPAX Client ES** and click **Remove**.

4. At the `Are you sure you want to remove this program?` prompt, click **Yes.**

5. If a Files Not Removed dialog opens, to remove the remaining files, click **Yes**.

6. At the Uninstall Successful message, click **OK**.

7. Restart the computer.

8. After the computer has restarted, verify that the C:\mvf directory has been deleted. If the directory is still present, delete it.

2. Removing the IMPAX 5.2 or 5.3 Client Knowledge Base
(Topic number: 58578)

If the IMPAX 5.2 or 5.3 Client Knowledge Base is installed, you must uninstall it before upgrading.

To remove the IMPAX 5.2 or 5.3 Client Knowledge Base

1. Open Control Panel.

2. Select **Add or Remove Programs**.

3. Select **IMPAX Client Knowledge Base 5.2** or **IMPAX Client Knowledge Base 5.3** and click **Change/Remove**.

4. In the Confirmation dialog, click **OK**.

5. If also uninstalling the IMPAX Server Knowledge Base, in the Maintenance Complete dialog, select **No, I will restart my computer later**. Otherwise, select **Yes, I want to restart my computer now** and click **Finish**.

6. If you restarted the computer, log into Windows as an administrator-level user.

7. To remove any translations of the IMPAX 5.2 or 5.3 Client Knowledge Base, delete the **C:/impax/documents/client/translations** directory.

3. Installing the IMPAX Client
(Topic number: 7776)

You can install IMPAX Client using the default InstallShield package. An alternative is to automate the installation through a batch file. For instructions on installing IMPAX Client that way, refer to "Enabling automated installation of the IMPAX Client software from a command prompt" (topic number 7802) in the *IMPAX 6.5.3 Client Installation, Upgrade, and Configuration Guide*.

> **Note:**
>
> To install the IMPAX Client, you must be logged in as a user in an Administrators role with permission to access the Windows Services.

To install the IMPAX Client

1. From the IMPAX Client CD or the IMPAX Client Installation web page (http://*install_server_name*/clientinstaller/*language_code*), start the IMPAX Client installation program, **IMPAXClientSetup.exe**.

   For information on setting up a Client installation server, refer to "Installing the IMPAX Installation Server" (topic number 7773) in the *IMPAX 6.5.3 Client Installation, Upgrade, and Configuration Guide*, the *AS300 Preparing to Upgrade Guide—IMPAX 4.5, 5.2, 5.3, or WEB1000*

to IMPAX 6.5.3, or the *AS3000 Preparing to Upgrade Guide—IMPAX 4.5, 5.2, 5.3, or WEB1000 to IMPAX 6.5.3.*

2. If a File Download dialog appears, click **Open** or **Run**.

   A `Preparing to Install` message appears.

   If on Windows Vista, a cscript.exe prompt may appear. To run it, click **OK**.

3. If a prompt appears about downloading and installing missing components, click **OK**.

4. Follow the prompts to download and install Microsoft .NET Framework 3.5, Microsoft .NET Framework 3.5 SP1, Visual C++ 2008 Redistributable, or all if none are installed on your computer.

   > **Note:**
   >
   > After installing a component, the installer may stop running or you may receive an `Installation is not yet complete` message. In either case, rerun the IMPAXClientSetup.exe program.

   Depending on network speed, downloading and installing the Microsoft .NET Framework can take over 30 minutes.

   For the .NET Framework 3.5 install, after the download, agree to the installation, accept the license agreement, and after the installation is complete click **OK**. If prompted, restart the computer.

   If you do not have a live Internet connection, the downloading will not work. Instead, install the Microsoft .NET Framework 3.5 from the Client Installer server (http://*install_server_name*/clientinstaller/redist/dotnetfx35.exe).

   For the .NET Framework 3.5 SP1 install, after the download, if prompted to start the installation, click **OK**. If prompted, restart the computer.

   For the Visual C++ 2008 Redistributable install, if prompted to start the installation, click **OK**.

5. On the Welcome to the Install shield Wizard for IMPAX Client screen, click **Next**.

6. On the License Agreement screen, read the license agreement. If you agree, select **I accept the terms in the license agreement**. Click **Next**.

7. To install the application into C:\Program Files\Agfa\IMPAX Client, on the Destination Folder screen, click **Next**.

         or

   To install the application to another location, click **Change**. In the Change Current Destination Folder dialog, browse for the directory location to install into and click **OK**. On the Destination Folder screen, click **Next**.

8. On the IMPAX Application Server screen, in the Get or confirm application server name field, type the fully qualified domain name of the Application Server to use. Click **Next**.

   A *fully qualified domain name* is the full name of a system, including its local host name and complete domain name. For example, if the Application Server is called *radserver*, it is on the

network domain called *radnet*, and radnet is within the *healthorg.com* domain, the name to type would be *radserver.radnet.healthorg.com*.

9. On the IMPAX Login Type screen, select the appropriate authentication method: Windows, IMPAX, or Smart Card.

   · **Windows Authentication**—Logs into IMPAX using the Windows session credentials after launching the IMPAX Client or logging in with a Windows smart card.

   · **IMPAX Authentication**—Logs into the IMPAX Client separately from Windows. (If unsure of which option to select, use **IMPAX Authentication**.)

   · **Smart Card Authentication**—Logs into the IMPAX Client with a smart card in the **National Health Service (NHS) environment only**.

10. Click **Next**.

11. On the Ready to Install the Program screen, click **Install**.

    The program is installed.

12. On the Install shield Wizard Completed screen, click **Finish**.

    The IMPAX Client software is installed. You do *not* have to restart the computer.

13. We recommend confirming that the Client can access the core servers.

14. Check that the Agfa Service user with administrators group was created by the installer. If the AgfaService user was not created by the installer, you can manually create it. For more details, see Troubleshooting: AgfaService user not created by the installer (refer to page 76).

7. Restarting antivirus software

(Topic number: 9916)

If you have antivirus software installed and have halted any scan jobs, restart the antivirus services.

To restart antivirus software

1. On a Windows server where scanning was stopped, launch the antivirus software.

2. Start the scan operation according to the vendor's instructions.

Post-upgrade checking and stabilization

7

Some tasks are performed after the 6.5.3 upgrade is complete.

1. Installing Server license keys on an upgraded AS300 server

(Topic number: 10245)

> 📄 **Note:**
>
> IMPAX 5.2 and 5.3 server license key files cannot be reused with IMPAX 6.5.3 software. For information on obtaining license keys, refer to the *AS300 Preparing to Upgrade Guide—IMPAX 4.5, 5.2, 5.3, or WEB1000 to IMPAX 6.5.3.*

If you have not already installed the appropriate license keys on the servers, do so now. MVF license keys must be installed on each AS300 single-host and Network Gateway station. Archive license keys must be installed on each AS300 single-host and Archive Server station.

Installing the mvf license key on a Windows server
(Topic number: 40452)

If you have not installed the license key with the software, you can do so afterward by following this procedure.

To install the mvf license key on a Windows server

1. Match up the correct license key with the machine's MAC address.

    The license key file name is the MAC address with a .lic file extension.

2. Open Windows Explorer.

3. Copy the license key file to **C:\mvf**.

4. Rename the license key file to **mvf.lic**.

Installing the archive license key on a Windows server
(Topic number: 15609)

Using PACS Store and Remember archiving (or any other type of archiving) requires that an archive license key be installed on the server.

To install the archive license key on a Windows server

1. Match up the correct license key with the server's MAC address.

   The license key file name is the MAC address with a .lic file extension.

2. Open Windows Explorer.

3. Copy the archive license key to the C:\mvf directory.

4. Rename the license key to **mvfarch.lic**.

2. Testing the installed software
(Topic number: 6842)

After installing the new version of IMPAX, perform the following tests to verify that the installation was successful.

To test the installed software

1. Ensure that the user migration was successful.

   a. On the Application Server, open the Windows Administrative Tools and select **ADSI Edit**.

   b. Right-click **ADSI Edit** and select **Connect To**.

   c. On the Connection Settings screen, fill in the values as shown in the following illustration.
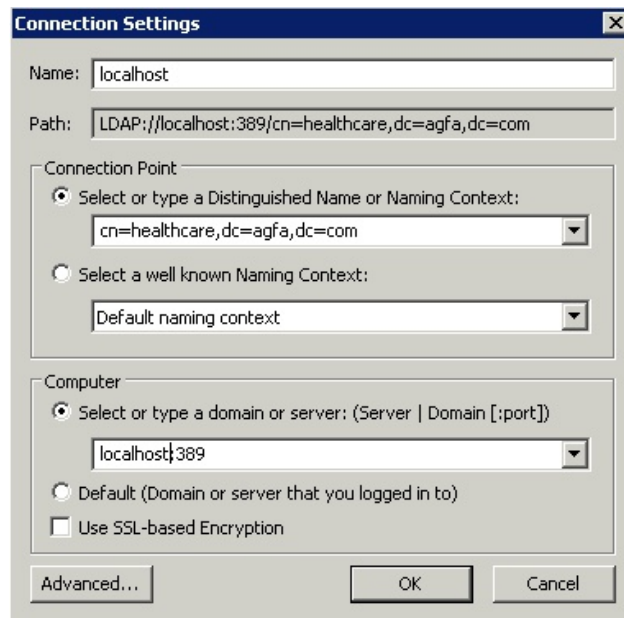
d. To close the Connection Settings dialog, click **OK**.

e. Expand **application server node**.

f. Expand **distinguished name**.

g. Select **CN=users**.

h. Verify that the list of original IMPAX 5.2 or 5.3 migrated users is displayed.

2. Ensure that you can log into the IMPAX 6.5.3 software.

a. On the IMPAX Database Server, run the Administration Tools and ensure that you can log in using the administration password.

b. On the Application Server, open a web browser and connect to **http://localhos**t. Ensure that the "Welcome to IMPAX" page is displayed.

c. Run the IMPAX Client and ensure that you can log in using the administration password.

3. Test the status of Web Services by running a Healthcheck.

a. Open a web browser and navigate to **http://***application_server_name***/AgfaHC.Healthcheck.Escrow/AuthenticationForm.aspx**.

b. Log in with the administrator user and password.

3. Restarting an archive queue

(Topic number: 32239)

Restart the Archive queue or queues that were halted before the IMPAX upgrade.

To restart an archive queue

1. Log into the IMPAX 6.5.3 Administration Tools.

2. On the Daily tab, select **Job Manager**.

3. In the queue list, select the archive queue.

4. Click **Restart**.

4. Restarting Connectivity Manager queues

(Topic number: 67610)

If Connectivity Manager is currently deployed, and you have stopped any queues, use the Queue Manager to restart them. Once the queue is restarted, messages sitting in them are processed.

To restart Connectivity Manager queues

1. In the Connectivity Manager Service Tools, click **Queue Manager**.

2. In the Queue List table, select the checkbox beside the queue of any system device or real world device with a `DM Out` or `impax_report_server` Component.

   The Status of the queue should be `Stopped`.

3. Click **start**.

   The Status of the queue changes to `Started`.

5. Taking a post-upgrade system snapshot

(Topic number: 6845)

After upgrading to IMPAX 6.5.3, use the migration_inventory tool to capture the state of the system to compare it with the previous IMPAX system. Perform this task on any computer on which the Migration Tools have been installed that can access the 6.5.3 Database Server.

To take a post-upgrade system snapshot

1. In a command prompt or terminal window, change to the directory containing the migration_inventory tool.

2. On a Windows server, type

   migration_inventory -s -d *database_name* **-U** *database_user_name* **-P** *database_password* **-D** *Database_Server_host_name*

   The output is stored in the migration_info table. It lists the number of IMPAX studies, total objects, and objects in cache. It also lists all IMPAX source stations and DICOM printers.

3. To create a report file with this information, type

   mig_reporter -t system_inventory_tool (Windows)

This command writes the output of the migration_inventory command to a report file in the /usr/mvf-mig6/reports or C:\mvf\mig6 directory.

6. Comparing pre- and post-upgrade snapshots

(Topic number: 6895)

Open the report file that contains the pre- and post-upgrade snapshot information. Compare the pre- and post-upgrade information. Ensure that all expected studies, objects, stations, and DICOM printers are still listed.

7. Installing the PSARMT and cache tools on a Windows server

(Topic number: 40800)

For this install, you must be logged into Windows as an administrator-level user.

The PSARMT and cache tools are on the IMPAX AS300 CD. PSARMT is used with external PACS to mark studies as PACS archived. The cache check and repair tools detect and correct IMPAX cache corruption.

To install the PSARMT and cache tools on a Windows server

1. Insert the IMPAX AS300 CD.

2. Navigate to the programs\mvf directory and double-click **mvfcachecheck-6.5.3.*xx*.exe** (cache check and repair tools).

3. On the Welcome screen, click **Next**.

4. On the Setup Complete screen, click **Finish**.

   The tools are installed in the C:\mvf directory.

5. Navigate to the programs\mvf directory and double-click **mvfpsarmt-6.5.3.*xx*.exe** (PSARMT Migration Tools).

6. On the Welcome screen, click **Next**.

7. On the Setup Complete screen, click **Finish**.

   The tools are installed in the C:\mvf directory.

8. Remove the IMPAX AS300 CD.

8. Running PSARMT to mark studies from an external PACS as PACS archived

(Topic number: 6629)

> ⊕ **Important!**
>
> If the site does not use an external PACS, you can skip this topic.

The PACS Store and Remember Migration Tools enable a site to migrate from an external PACS system to IMPAX by allowing the external system to act as an archive server to IMPAX.

Run these commands on the migrated IMPAX Database Server.

For more information regarding the configuration and execution of the PSARMT Migration Tools, refer to the PSARMT readme document that can be found in the C:\mvf-mig6 directory.

To run PSARMT to mark studies from an external PACS as PACS archived

1. Navigate to the C:\mvf directory.

2. Build the PSARMT database tables by running **build-mvf-psarmt-database.bat**.

3. Install the PSARMT Tools as services by running **install_psarmt.bat**.

4. Specify the migration configuration by running **mvf_psarmt_config_manager.exe**.

    Parameters are as follows:

    - **-C** *configuration_file_with_all_parameters*—Default is installed as mvf-psarmt.cfg. The attributes of this file are described in the PSARMT readme document.

    - **-R** *study_status*—Retries studies with the given status for migration. Possible *study_status* values are conflict (**C**), error (**E**), and unknown (**U**). To retry all at once, specify **-R EUC**.

    - **-A {STOP | RESTART | KILL}**—Performs the specified action command.

5. Start the PSARMT services by running **start_psarmt.bat**.

6. Perform the migration, based on the configuration defined in step 4, by running **mvf_psarmt.exe**.

At some later date, when studies are retrieved from the PACS, update the missing information in the database from incoming study object by running **mvf_study_fixer.exe**.

Once the migration is complete and all studies have been fixed by the Study Fixer tool—this may be several months later—the PSARMT services halt automatically. If you want to remove the PSARMT Tools as services, on Windows, run **remove_psarmt.bat**.

9. Uninstalling the IMPAX Migration Tools from a Windows computer

(Topic number: 47239)

Once all migration tasks and post-migration checks are completed, you must uninstall the IMPAX Migration Tools from all Windows-based computers on which they are installed. This is a legal requirement.

To uninstall the IMPAX Migration Tools from a Windows computer

1. Open Control Panel.

2. On Windows 2003 servers, select **Add or Remove Programs**.

   On Windows 2008 servers, select **Programs and Features**.

3. Select **IMPAX 6.5.3 AS300 Migration 6.5.3.*xxx***

   where *xxx* is the build number.

4. On Windows 2003 servers, click **Change/Remove**. On Windows 2008 servers, click **Uninstall**.

5. In the Confirm File Deletion dialog, click **Yes**.

6. At the Uninstall complete prompt, click **Finish**.

10. Uninstalling the Cross-Cluster Dictation Interlock tool

(Topic number: 60390)

If you no longer have to synchronize the dictation status of studies between the 5.3 or earlier and the 6.5.3 IMPAX systems, you can uninstall the components of the Cross-Cluster Dictation Interlock tool.

To uninstall the Cross-Cluster Dictation Interlock tool

1. On the computer where the 5.3 or earlier Cross-Cluster Dictation Interlock components were copied, open the Windows Administrative Tools and select **Services**.

2. Right-click the **MVF Signal Relay** service and select **Stop**.

3. Close the Services window by selecting **File** > **Exit**.

4. Open a command prompt.

5. Change to the **C:\mvf\bin** directory.

6. Type

   mvf_signal_relay.exe -remove

7. Type **clui**.

8. In CLUI, type

   delete from map_ini where ini_section='signal-relay'

9. To exit CLUI, type **exit**.

10. In Windows Explorer, navigate to C:\mvf\bin and delete the **mvf_signal_relay.exe** and the **install_relay-signal.bat** files.

11. Optionally, you can delete the **signal-relay** and **sig-relay-train** users from the IMPAX 5.3 or earlier Service Tools User Manager.

12. On the IMPAX 6.5.3 Application Server where the 6.5.3 Cross-Cluster Dictation Interlock components were copied, open the Windows Administrative Tools and select **Services**.

13. Right-click the **Impax Study Status Relay** service and select **Stop**.

14. Close the Services window by selecting **File** > **Exit**.

15. Open a command prompt.

16. Change to the directory containing the Cross-Cluster Dictation Interlock components—possibly C:\Program Files\Agfa\Impax Business Services.

17. Type

    uninstall_study_status_relay_service.bat.

18. To close the command prompt, type **exit**.

19. From Windows Explorer, navigate to and delete the **study-status-signal-relay** folder (possibly from C:\Program Files\Agfa\Impax Business Service).

20. Log into an IMPAX 6.5.3 Client as an administrator user.

21. From the Configure area > Users and Roles section, delete the **remote-dictation** user from the Study Status Relay role, then delete the **Study Status Relay** role.

All components of the Cross-Cluster Dictation Interlock tool are now removed.

11. Stopping WEB1000 Data Currency service

(Topic number: 6755)

Important!

This topic applies only to migrations from WEB1000 systems.

Once a site is migrated to IMPAX 6.5.3, the Data Currency service between IMPAX and WEB1000 is no longer supported, so you must stop the service.

Stopping the exhibitSyncNotifier service
(Topic number: 58418)

Once a site is migrated to IMPAX 6.5.3, the exhibitSynchNotifier service is no longer supported. You must therefore stop the exhibitSyncNotifier service, if it is still running on an upgraded station.

To stop the exhibitSyncNotifier service

1. On the AS300 server, navigate to C:\mvf\sync\bin.

2. Double-click **stopExhbitSyncNotifier.bat**.

    The exhibitSyncNotifier service is stopped.

You can also uninstall Data Currency.

Uninstalling Data Currency from an AS300 server
(Topic number: 58421)

After the WEB1000 Data Currency service is stopped, you can uninstall it. To do so, you must be logged into Windows as an administrator-level user.

To uninstall Data Currency from an AS300 server

1. Open the Windows Administrative Tools and select **Services**.

2. Locate the **Exhibit PACS Synchronization Notifier** service and stop it.

3. Exit from the Administrative Tools.

4. In Windows Explorer, navigate to the C:\mvf\sync\bin directory.

5. Run **removeSystemDate.bat**.

6. Run **removeJobQueue.bat**.

7. Run **removeSync.bat**.

8. Open Control Panel.

9. Select **Add or Remove Programs**.

10. Under Currently installed programs, select **PACS Synchronization** *version*

    where *version* is the version of the software.

11. Click **Change/Remove**.

12. When prompted to confirm the removal, click **Yes**.

Data Currency is uninstalled.

12. Removing Client queues from Job Manager

(Topic number: 11640)

IMPAX 6.5.3 no longer supports cached Clients—only cacheless and standalone Clients. You must therefore remove previous Client queues, which are now obsolete, from the Job Manager.

To remove Client queues from Job Manager

1. Retrieve the AE_REF of each cached 5.2 or 5.3 Client station. In CLUI, type

   select ae_ref from map_ae where ae_title = 'DISPLAY_STATION_AE'

2. Generate a list of cache volumes for that AE. Type

   select * from osr_volume where volume_type = 'C' and ae_ref = *ae_ref_from_step_1*

3. To check if any images exist in those caches, type

   select count(*) from osr_location where volume_ref in (*list_of_volume_refs_from_step_2*)

4. If the count in step 3 is greater than 0, to check that those images exist elsewhere in the system, type

   select location_ref from osr_location ol1 where volume_ref in (*list_of_volume_refs_from_step_2*)

   To check that the images do not exist elsewhere in the system, type

   select location_ref from osr_location ol2 where ol1.object_ref = ol2.object_ref and ol2.volume_ref not in (*list_of_volume_refs_from_step_2*)

5. If images exist elsewhere in the system, delete them from this cache. Type

   delete from osr_location where volume_ref in (*list_of_volume_refs_from_step_2*)

   If images appear that do not exist elsewhere in the system, stop this process and determine whether these images should exist in another cache.

6. Repeat the query in step 3 and once it returns zero, delete the caches. Type

   cache remove *volume_ref*

7. Delete the services running on this AE. Type

   go service

   query

   delete *service_refs_for_AE_title*

Troubleshooting IMPAX

A

As you upgrade IMPAX servers, you may encounter various problems.

Troubleshooting: Error finding uninstall information for the previous version of IMPAX

(Topic number: 121194)

Issue

During an IMPAX AS300 upgrade, the following message is received:

```
Error finding uninstall information for the previous version of Impax.
Please manually uninstall.
```

Details

The IMPAX 6.5.3 installer looks for certain IMPAX 6 registry keys and, if they are not found, an error message is displayed. This may occur, for example, if an IMPAX 6.3 installation does not complete and the system is restarted. The installation needs to be manually cleaned up before IMPAX 6.5.3 can be reinstalled.

Solution

1. Manually uninstall the AS300 software.

    a. Open Control Panel.

    b. In Windows 2003, select **Add or Remove Programs**.

        or

        In Windows 2008, select **Programs and Features**.

    c. Select **AGFA IMPAX AS300**.

d. Click **Change**.

e. At the prompt, type your name. Click **Next**.

f. On the Welcome screen, select **Modify**. Click **Next**.

g. Clear the checkboxes of all installed packages. Click **Next**.

h. On the Maintenance Complete screen, select **Yes, I want to restart my computer now**. Click **Finish**.

2. Log into Windows as the **AgfaService** user.

3. Delete the following registry entry if it still exists:

   `SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\{787B967E-DB4F-4313-BBD7-3E2BE0AB49A5}`

   ⚠️ **CAUTION!**

   Serious problems might occur if you modify the registry incorrectly. These problems might require that you reinstall your operating system and we cannot guarantee that these problems can be solved.

   We recommend that you back up the registry before you change it, so that you can back out the changes, if necessary.

   ---

4. Continue with the upgrade.

Troubleshooting: When upgrading an AS300 to IMPAX 6.5.3, the Cygwin installation hangs

(Topic number: 120883)

Issue

When upgrading an AS300 server to IMPAX 6.5.3 from a previous IMPAX version, Cygwin hangs.

Details

During an IMPAX upgrade on an AS300, Cygwin attempts to upgrade using a registry entry that may have been set incorrectly during a previous installation.

Solution

1. Cancel the Cygwin upgrade.

   Canceling the Cygwin upgrade allows the AS300 upgrade to continue.

2. After the AS300 upgrade is complete, to verify that the Cygwin tools are working, first open a command prompt.

3. Ensure that Cygwin is in the PATH variable by typing the following:

   set PATH=%PATH%;c:\cygwin\bin

4. To test Cygwin, type the following commands to see whether a help message or an error is displayed:

bash -help

grep -help

sed -help

tr -help

gawk -help

5. If you see an error message similar to the following after one or more of the -help commands:

```
This application has failed to start because cygwin1.dll was not found.
Re-installing the application may fix this problem.
```

Perform the clean-up task described in the following section, then reinstall Cygwin, as described in the section after that.

Cleaning up the existing Cygwin installation

If you received errors on Cygwin commands, clean up the installation.

⚠ CAUTION!

Serious problems might occur if you modify the registry incorrectly. These problems might require that you reinstall your operating system and we cannot guarantee that these problems can be solved.

We recommend that you back up the registry before you change it, so that you can back out the changes, if necessary.

To clean up the existing Cygwin installation

1. Delete the C:\cygwin directory.

2. Open regedit and delete the following registry keys

   • HKEY_LOCAL_MACHINE\SOFTWARE\Cygnus Solutions

   • HKEY_LOCAL_MACHINE\SOFTWARE\Cygwin

Reinstalling Cygwin

After cleaning up the existing Cygwin installation, you can reinstall it.

To reinstall Cygwin

1. From the OracleInstall media, run setup.bat to automatically install Cygwin.

2. After the Cygwin installation is complete, press **Ctrl** + **C** to exit the OracleInstall installation script.

Troubleshooting: AgfaService user not created by the installer

(Topic number: 140394)

Issue

The installer did not create the AgfaService user.

Details

You can manually create the AgfaService user and update the password file. You must do this before the file is exported to other systems in the cluster.

Solution

1. Open a command prompt.
2. Type

    C:\mvf\bin\passkey -M SET -u AgfaService -P "*password*"

    where *password* is the password you want for the AgfaService user.

Troubleshooting: Reports not displaying on the IMPAX Client—no default report source

(Topic number: 120765)

Issue

Reports are not displaying on the IMPAX Clients.

Details

After upgrading to IMPAX 6.5.3 from a version prior to IMPAX 6.3, IMPAX Clients cannot retrieve reports because no default report source is configured. This situation may arise even when a valid report source is specified during the upgrade process.

Solution

On the IMPAX Client, if a user opens a study and the expected report is not displayed, check the Application Server's AgfaHC.Pacs.Web.Services.Log file for error messages that indicate a default report source could not be found. If you find this type of message in the log file, configure a default report source.

1. Log into the Application Server.
2. Select **Start** > **All Programs** > **Agfa Healthcare** > **Business Services** > **Configurator Tool**.

3. Switch to the **Web Services** tab.

4. If the Report Sources Info field contains entries, double-click one of the entries.

   or

   If the Report Sources Info field is empty, click **Add**.

5. In the Report Source Provider field, type a name for the report source.

6. From the RIS type list, select the appropriate RIS type.

7. If you selected either Connectivity Manager Queryable RIS or Remote IMPAX RIS in the previous step, in the URL field, enter the URL for the queryable RIS or the remote RIS.

8. If **Default Report Source** is not selected, select it.

9. To close the Edit Report Source dialog, click **OK**.

10. Click **Apply**. Click **OK**.

Troubleshooting: Some sites may notice a delay in updating clusters

(Topic number: 40944)

Issue

Cluster updates seem to take slightly longer in IMPAX 6.5.3 than they did in IMPAX 5.2 or 5.3.

Details

To boost performance at busy times, IMPAX introduces a small delay during which linked updates between multi-cluster facilities are spooled. The spooled updates can then all be performed at the same time.

If a cluster is not that busy, the 15-second delay during which updates are pooled is not ultimately beneficial, and may result in slower rather than faster cluster updates.

Solution

If the system clocks are accurate on all IMPAX core systems, you can eliminate the 15-second delay to achieve performance similar to what was available in IMPAX 5.2 and 5.3. You can do this through a SQL update to the system database.

To remove the cluster update spooling delay

1. Launch CLUI.

2. Run the following command:

   update MAP_INI set INI_VALUE = 0 where INI_SECTION = 'MVF_SCU' and INI_KEY = 'LINK_UPDATE_DELAY_TIME'

Troubleshooting: IMPAX Client slow and erratic post-upgrade

(Topic number: 10210)

Issue

After upgrading, IMPAX Client display is slow at a site using McAfee Antivirus software.

Details

A McAfee Antivirus setting called Buffer Overflow Protection (BOP) can cause this behavior.

Solution

Disable BOP in McAfee. Alternatively, use McAfee EPO or Protection Pilot to reconfigure the BOP to run only at fixed intervals, such as every five minutes.

Troubleshooting: Reports not displaying on the IMPAX Client

(Topic number: 60414)

Issue

Reports are not being displayed on the IMPAX Client, and the report source is listed as UNKNOWN.

Details

This indicates a problem in the report migration.

Solution

Fixing this problems requires updates on several servers.

1. On Connectivity Manager, using ISQL, type the following:
   a. **use mcf; select distinct(issuer_of_patient_id) from mcf_patient_id where use_of_patient_id ='PRIMARY' = PrimaryDomain**
   b. **select distinct(requesting_service) from mcf_service_request = site_identifier**

      Consult Connectivity Manager support if requesting_service has multiple values.
2. On the Database Server, using CLUI, type the following:
   a. **select distinct(domain_id) from agfahc_patient_id = *PrimaryDomain***

      where *PrimaryDomain* matches the value used on Connectivity Manager.

> **Note:**
>
> In IMPAX, other domain_id values may exist for the global or alternate domains. Updates may be required to match the domain_id for the primary domain patient_ids to the Connectivity Manager's issuer_of_patient_id values for the PRIMARY use_of_patient_id.

    b. **select requesting_service from dosr_study where accession_number='xxxxxxx' = *site_identifier***

The requesting_service value should match the Connectivity Manager site_identifier. Updates may be required to match the requesting_service to the Connectivity Manager requesting_service for reports associated with the specific report source.

> **Tip:**
>
> Use the accession_number of a study that is approved and was completed before the Broker to Connectivity Manager migration.

3. On the Application Server, using the Business Services Configuration tool:

    a. Switch to the **Web Services** tab.

    b. Under Report Information Sources, click **Add**.

    c. In the Non-Queryable RIS Report Source Provider field, type the same *site_identifier* user previously.

    d. Click **Apply**, and **OK**.

4. On the Database Server, using CLUI, type the following:

   select * from agfahc_report_access_config

5. Verify that the Report Source is configured the same as in the Application Server.

6. Set the IMPAX Client to DEBUG mode and search for **ReportQuery,QueryReport: Checking for report on**.

Troubleshooting: Unlocking the mvf user account

(Topic number: 114829)

Issue

You cannot log into SQL Server 2008 using the mvf account because the mvf user account is locked.

Details

The mvf user account gets locked if you start IMPAX immediately after upgrading to SQL Server 2008.

Solution

To unlock the mvf user account

1. Log into SQL Server 2008 using the Administrator account.

2. In the SQL Server Management Studio, open a new query window.

3. Type

   ALTER LOGIN mvf ENABLE;

   ALTER LOGIN mvf with PASSWORD = 'mvf' UNLOCK;

   GO

4. Click **Execute**. ▶

Troubleshooting: Server name registered in SQL Server is incorrect

(Topic number: 7625)

Issue

If the server name registered in SQL Server is not the same as the server name registered in Windows, you must update the server name in SQL Server.

Details

This discrepancy may happen if you use a ghost image when installing the third-party applications.

Solution

To check the server name registered in Windows

1. Right-click **My Computer** and select **Properties**.

2. Switch to the **Computer Name** tab.

   The server name is listed as the full server name.

To check the server name registered in SQL Server

1. In a SQL Server query window, type **select @@servername**

To update the server name registered in SQL Server

1. In the SQL Server query window, type:

   sp_dropserver *old_server_name*

   go

   sp_addserver *server_name_as_in_Windows*, **local**

   go

Upgrade and installation tool reference

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Reference information is available for some of the tools and programs used when upgrading.

IMPAX AS300 installation programs

(Topic number: 7684)

IMPAX 6.5.3 AS300 includes two installation programs for Windows Server 2008 R2 servers.

Program	Purpose
setup.bat (Oracle for 64-bit Windows DVD)	Install the appropriate version of Oracle Server for Windows Server 2008 R2
as300-installer.exe (IMPAX AS300 installation DVD)	Install or upgrade an AS300 Database Server on Windows Server 2008 R2, under Oracle or SQL Server
	Install or upgrade an AS300 single-host server
	Install or upgrade an AS300 Network Gateway, Archive Server, Curator, or Cached Workstation

Note:

SQL Server 2008 R2 is not distributed with IMPAX but is available from the Agfa Parts Center.

AS300 installer packages reference

(Topic number: 7682)

The standard IMPAX AS300 installer groups the packages to install under four sections: default, database, archive, and optional. The following tables explain each package.

Default

Depending on the configuration of IMPAX being implemented, certain packages may not be supported.

Default packages	Purpose
MVFCore	Installs the DICOM services for IMPAX and contains several core Windows services and database tables used by IMPAX.
MVFCache	Installs the DICOM SCU and autopilot services used by IMPAX and spftp services. MVFCache includes mvf_compressor, used for lossy compression, and cache_migration, used to migrate cache volumes from a flat to a hierarchical structure.
MVFNetworkGateway	Installs the SCP and APIP-SCP services used by IMPAX. Install this package only on stations that require Network Gateway functionality. Servers that support only internal transfers, not incoming DICOM communications, do not require it.
AdministrationTools	Installs the Java Administration Tools application for configuring and managing IMPAX. It also copies the Java Runtime Environment (JRE) self-extracting executable onto the system.
	The package can be installed on more than one server, but run only one instance at a time (by disabling the other Administration Tools services).
MVFocr	Installs the files necessary to enable Optical Character Recognition. This is an optional installation that works in conjunction with the MVFNetworkGateway package. Install it only if your system requires OCR.
	The OCR package installs default OCR templates to handle many different modality vendors. OCR training tools are not included with IMPAX.
VaultAgfa	Includes specific requirements and database extensions.

Database

Only one of the two Database Packages can be installed. Install these only on single-host servers or dedicated Database Servers.

Database packages	Purpose
Oracle Server Extension	Contains the files necessary to build an Oracle Server database to be used by IMPAX.
SQL Server Extension	Contains the files necessary to build a SQL Server 2008 R2 database to be used by IMPAX. For upgrades only.

Archive

Depending on the configuration of IMPAX being implemented, an archive package may not be supported.

Archive packages	Purpose
MVFhsm	Installs the HSM package.

Archiving considerations:

- If the server is used for viewing only (no archiving), do not install any archive package. Do not install archive packages on standalone stations.

- PACS Store and Remember archiving is available but does not require an installation package. It does require an archive license.

Optional

Depending on the configuration of IMPAX being implemented, certain packages may not be supported.

Optional packages	Purpose
MVFCompressor	Installs the MVF Compressor package, which includes mvf_compressor_scheduler. The mvf_compressor_scheduler process is responsible for scheduling the lossy compression of images.
MVFScavenger	Do not install. Previously used for direct attached archives, which are no longer supported.
MVFCurator	Installs the Curator package. The Curator process compresses incoming images into Mitra wavelet format and stores them in the web cache. Studies compressed by the Curator process are served locally or over a network to display clients.
MVFcdexport	Installs the CD Export server, used with the CD Export feature in the IMPAX Client. The CD Export server processes local burn jobs created by the IMPAX Client and prepares the zip files containing the data for the burn job.
	For instructions on using CD Export, see "Exporting and viewing images from CD or DVD" (topic number 8209) in the *IMPAX 6.5.3 Client Knowledge Base: Extended*.

Optional packages	Purpose
MVFchangeaccepter	Installs a package related to the processing of change context (cc) objects.
	This feature is not required and we recommend that this package not be installed.
MVFpap	Installs the PAP package. A PACS Archive Provider (PAP) acts like a Service Class Provider (SCP) by receiving studies and allows sites to have their studies mirrored at another site through PACS Store and Remember archiving. This mirroring protects against data loss and enables studies at one PACS to be viewed at another.
	For instructions on configuring a PAP, see "Configuring a PACS Archive Provider (PAP)" (topic number 11586) in the *IMPAX 6.5.3 Server Knowledge Base*.
MVForadg	Installs a set of scripts and tools for configuring and monitoring Oracle Data Guard.
	Important!
	Data Guard works **only** on servers running Oracle Enterprise Edition. Do not install it on a Database Server using SQL Server or Oracle Standard Edition, and do not include it on other types of servers (Archive Server, Network Gateway, Curator, standalone).

Cache check tools reference

(Topic number: 60457)

IMPAX 6.5.3 includes four tools designed to ensure the integrity of the IMPAX cache directory. These tools check the cache directory, repair the cache directory, and then provide a Loss Report for files missing from the cache.

For Windows servers, the mvfcachecheck-*version* executable can be found on the IMPAX 6.5.3 AS300 Server DVD or ISO file in the programs/mvf folder.

mvf-check-cache

(Topic number: 60503)

This command checks that all the DICOM object files registered in the database for a particular cache volume actually exists in the cache. It also does a sanity check to determine whether the files are correct by comparing the sop_instance_uid to the value in the database. A report giving precise details of the problems found is produced and written to the log file. Optionally, a move-cmds.sh file is created to move the problematic files out of the cache. Files in the cache that do not have locations registered in the database are not detected by mvf-check-cache.

If there are multiple caches, the path name of the cache to be checked must be specified. Memory usage may be high if there are a large number of files, but mvf-check-cache displays the amount of memory required so that the operator can add more virtual memory if needed

Performance of mvf-check-cache is hardware dependant. For example, on a Sunfire 280R, mvf-check-cache can check about 130 files per second. With the quick check option enabled (checking only file existence and file size), about 30,000 files per second can be checked.

mvf-clean-cache
(Topic number: 60506)

This command scans an IMPAX cache directory containing DICOM object files and generates a report of files that do not belong there, either because the file name format is invalid or because this location for the object file is not registered in the database. While working, it writes messages to the stderr stream to keep the tool operator informed of its progress. The path name of the cache to be scanned is specified on the command line. mvf-clean-cache begins by querying the database for the list of ordinals for the files in the cache. It keeps this list in memory. If there is a large number of files, memory usage may be high but mvf-clean-cache displays the amount of memory required and the operator can add more virtual memory if necessary.

mvf-clean-cache does not access the contents of the cache files. It works by examining the file names and reporting the problem. A copy of the report and additional diagnostic messages are written to the log file. Since mvf-clean-cache may be run on a live system, new files (less than one hour old) are skipped. Thus, temporary files created by the SCP are ignored.

Performance of mvf-clean-cache is hardware dependent. For comparison, on a Sunfire 280R, mvf-clean-cache can check approximately 50,000 files per second

mvf-report-loss
(Topic number: 60524)

After repairs have been performed by mvf-check-cache (refer to page 84) mvf-clean-cache (refer to page 85), and mvf-ddo-rescue, mvf-report-loss is used to perform the last two steps of the repair process:

1. It determines what cache files have been lost and generates a Loss Report for the customer. The body of the report contains one line for each study affected and the report is sorted by patient name and study date.

2. It unregisters the missing cache files from the database, preventing display, transmit, and archive errors that are caused when the product tries to access files that are missing from the cache.

mvf-report-loss has two corresponding modes of operation:

Marking mode
The default mode for the tool. In marking mode, the tool checks all the caches on the local server for the presence of the DICOM object files that the database says should be present. For missing files, the visible field in the database osr_location table is set to C. (Normally this field contains the value T for true, or F for false). Changing this field makes these file locations invisible to the product software.

The reporting tool may be rerun after further recovery work has been completed (more files restored to cache). In these cases the tool also checks locations with visible value C. If any files have been restored to cache since the last run of the tool, it sets those locations' visible values back to T to indicate that they are now valid.

After the missing DICOM object file locations are marked, a report is generated for the studies that contain lost objects. Each comma-delimited line in the report lists the patient name, patient ID, modality, accession number, study description, study date, total number of objects, and number of lost objects for an affected study.

> **Note:**
>
> In the report, any commas in these fields are replaced by a semicolon.

Deregister mode (-r)

In deregister mode, the tool changes the C values to F. This triggers the Autopilot program to permanently delete these locations from the database. (This is a normal Autopilot function). Note that there is **no undo**.

> **Note:**
>
> Before running the tool in deregister mode, check the report to ensure that the losses are as expected. If the report seems to report any files that may not be missing, follow the instructions given in the TROUBLE section.

A copy of the report and additional diagnostic messages are written to the log file.

Performance of mvf-report-loss is hardware dependent. For comparison, on a standalone Sunfire 280R, mvf-report-loss scans about 2000 files per second.

IMPAX 5.2 tables obsolete in IMPAX 6.5.3

C

Some of the entries in the IMPAX 5.2 and 5.3 database tables have become obsolete in the IMPAX 6.5.3 database.

Obsolete tables in WSQL

(Topic number: 55025)

Table name	Module name
mitra_voice_command_keywords	activex-voice
mitra_display_pinned_studies	display-sql
mitra_display_special_format	display-sql
mitra_display_config	display-sql
mitra_ae_config	display-sql
mitra_display_markup_text	display-sql
mitra_display_modality_config	display-sql
mitra_display_worklist	display-sql
mitra_user_calibration	display-sql
mitra_display_modality_toolbar	display-sql
mitra_display_hanging_protocol	display-sql

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Table name	Module name
mitra_display_site_hanging	display-sql
mitra_display_toolbar_buttons	display-sql
mitra_display_format	display-sql
mitra_display_user_wizards	display-sql
mitra_display_wizards	display-sql
mitra_display_site_wizards	display-sql
mitra_display_priv_wizards	display-sql
mitra_lut_tables	display-sql
mitra_display_snapshot	display-sql
mitra_display_mpr_vr_presets	display-sql
mitra_display_ordering	display-sql
mitra_display_study_sorting	display-sql
mitra_display_xml_config	display-sql
mitra_display_wizard_state	display-sql
mitra_display_echo_values	display-sql
mitra_display_echo_data	display-sql
jselect_data_dictionary	mvf-jselect-sql
jselect_user_script_button	mvf-jselect-sql
mitra_select_available_combos	mvf-select-sql
mitra_select_available_columns	mvf-select-sql
mitra_select_user_columns	mvf-select-sql
mitra_select_user_combos	mvf-select-sql
mitra_finder_wizards	mvf-select-sql
mitra_select_toolbar	mvf-select-sql
mitra_select_user_settings	mvf-select-sql
mitra_cerner_apps	mvf-select-sql
mitra_select_telerad_aes	mvf-select-sql
mitra_select_rond_items	mvf-select-sql
mitra_select_rond_config	mvf-select-sql
mitra_select_rond_departments	mvf-select-sql

Table name	Module name
mitra_select_rond_link	mvf-select-sql
mitra_select_rond_holidays	mvf-select-sql
mitra_select_user_toolbar	mvf-select-sql
mitra_study_arrive_rule_xml	mvf-select-sql
cd_burn_wizard	mvf-select-sql
cd_export_service	mvf-select-sql
mitra_window_positions	mvf-select-sql
mitra_select_avail_context	mvf-select-sql
mitra_select_user_context	mvf-select-sql
mitra_select_status_macros	mvf-select-sql
mitra_user_enumerated_attr	mvf-select-sql
mitra_avail_study_list_columns	mvf-select-sql
mitra_user_study_list_columns	mvf-select-sql
mitra_user_study_list_defaults	mvf-select-sql
mitra_mw_finder_wizards	mvf-select-sql
mitra_user_fixup_columns	mvf-select-sql
mitra_avail_fixup_columns	mvf-select-sql
mitra_user_rond_columns	mvf-select-sql
mitra_avail_rond_columns	mvf-select-sql
dosr_user.user.data.sql	display-sql
mitra_select_user_keyword	mvf-select-sql
mitra_user_tf_report_items	mvf-select-sql
mitra_avail_tf_report_items	mvf-select-sql

Obsolete tables in ORAS

(Topic number: 55124)

Table name	Module name
mf_staff	mtk
mf_procedure	mtk

Table name	Module name
mf_location	mtk
mtk_query_constraints	mtk
mtk_user_source	mtk
mtk_user_destination	mtk
mtk_user_layout	mtk
dosr_team	dosr
dosr_user_team	dosr
dosr_user_history	dosr
dosr_password_history	dosr
dosr_privileges	dosr
dosr_wl_presets	dosr
dosr_user	dosr

IMPAX hardware and software requirements

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For optimal performance, Agfa recommends particular hardware and software for each component of the cluster.

IMPAX Application Server hardware and software requirements

(Topic number: 6682)

Application Servers have specific hardware and software requirements. Where a specific manufacturer is identified, only that manufacturer's device is supported.

IMPAX Application Server: Hardware requirements
(Topic number: 6691)

The following hardware configuration is recommended for Application Servers.

Component	Requirements
System	**Preferred:** HP ML370 G6/G7, DL380 G6/G7 **Supported:** Dell 1900, 2900, 2950, 6900*, 6950*, PER610/710, PET610/710
CPU	Minimum: 1 x dual core
RAM	8 GB minimum
Hard drive space	2 x 73 GB (Mirrored)

Component	Requirements
RAID	Embedded
Tape backup	DAT 72/160 tape drives (if required for backup). For Oracle and larger SQL installs, a network backup is preferred.
Modem	N/A
DVD-ROM	Yes
Network interfaces	100/1000 Mbps
Video	KVM or Integrated video
Power supplied	Redundant
Peripherals	KVM or mouse and keyboard

* The use of four-CPU socket servers for IMPAX is supported but not recommended.

IMPAX Application Server: Software requirements

(Topic number: 6621)

The following tables list the required software for Application Servers using Windows Server 2008® R2 (64 bit only) platforms. Unless otherwise indicated, Agfa does not provide the software as part of the Application Server installation package.

📄 **Note:**

The Office Converter Pack files are installed as part of the Application Server installation. They are installed only when the RIS Services are installed.

Component	Requirements
Operating system	Windows Server 2008® R2 Service Pack 1, (64-bit), US - English
Remote access	Symantec pcAnywhere™ version 12.5 SP3 with HF TECH179960
Other explicit software	• IIS 7.5 for Windows 2008 R2 • Microsoft Internet Explorer 8.0 • AD LDS • .NET 3.5 SP1 • Latest version of Adobe® Reader® • Norton Antivirus 6.1 or higher, Trend Micro, McAfee Antivirus 4.5 or higher

IMPAX AS300 Server hardware and software requirements

(Topic number: 6674)

IMPAX AS300 Servers (including single-server configurations and dedicated Curator and CD Export servers) have specific hardware and software requirements. Where a specific manufacturer is identified, only that manufacturer's device is supported.

IMPAX AS300 Server: Hardware requirements

(Topic number: 6690)

The following hardware configuration is recommended for IMPAX AS300 servers (including single-server configurations).

Component	Requirements
Example systems	**Preferred:** HP ML370, DL380 (may be deployed with VMware ESXi 4.1.0) **Supported:** Dell 1900, 2900, 2950, 6900*, 6950*
Number of CPUs	Minimum one dual-core, x64 capable CPU
RAM	8 GB minimum (Oracle 11g requires more RAM than previous versions of Oracle) 16 GB minimum for Oracle Data Guard servers
Hard drive	Minimum three drives Minimum drive size 73 GB; NAS/SAN connections also supported See "Recommended disk partitions" (topic number 7056) in the *IMPAX 6.5.3 AS300 Installation and Configuration Guide*.
RAID	Embedded RAID (for onboard storage)
Tape backup	DAT 72/160 tape drives, if required for SQL database backup. Oracle direct tape backup is not supported. For Oracle and larger SQL installs, network backup is preferred. The third-party backup tool, HP Data Protector, can be used and is free when ordering an HP tape device.
Modem	Not required
DVD-ROM	Yes

Component	Requirements
Floppy	No
Network interfaces	100/1000 Mbps
Video	Integrated video
Power supplies	Redundant
Peripherals	Mouse, keyboard, monitor

* The use of four-CPU servers for IMPAX is supported but not recommended.

Additional AS300 hardware requirements: Storage requirements
(Topic number: 6733)

Additional hardware can be used to meet archive requirements.

IMPAX AS300 Server: Non-SCSI CD/DVD burners and controller cards
(Topic number: 58044)

OEM-supplied CD/DVD writer

IMPAX AS300 Server: HSM storage requirements
(Topic number: 6686)

Direct attached libraries are not supported in IMPAX 6.5.3.

The following HSM storage devices are preferred:

- EMC

- HP

- QStar

📧 **Note:**

To use QStar HSM with IMPAX, open port 160 for UDP messages.

IMPAX AS300 Server: External storage requirements
(Topic number: 6616)

For the most current and complete listing of supported storage products, refer to the IIBU Solution Platform Compatibility Matrix (Livelink ID 19535804). If you do not have access to this document, contact Agfa Professional Services.

IMPAX AS300 Server: External software requirements

(Topic number: 6695)

The following software is required for most IMPAX AS300 servers. Unless otherwise indicated, Agfa does not provide the software as part of the IMPAX AS300 Server installation package.

Component	Requirements
Operating system	Windows Server 2008 R2 SP1 (64-bit)
Database software	One of the following: • Enterprise Edition, Standard Edition, or Standard Edition One of Oracle 11.2.0.2 (April 2011 CPU), provided on Oracle for Windows 64-bit DVD. For Oracle Data Guard, Enterprise Edition is required. A valid support contract is required. or • Upgrades only: Microsoft SQL Server 2008 R2 SP1 (64-bit), Standard Edition.
Database software (for separate Network Gateway, Archive Server)	Oracle Instant Client 11.2.0.1.0 including Basic, ODBC, and SQLPlus ODAC 11.2.0.2.1 for .NET 2.0
Browser	Internet Explorer 8.0
Java	Version 1.6 u31
Documentation	Latest version of Adobe® Reader®
Remote access (optional)	Symantec pcAnywhere version 12.5 SP3 with TECH179960 hotfix
Antivirus	Norton Antivirus 6.1 or higher, Trend Micro, McAfee Antivirus 4.5 or higher Refer to Agfa's *Policy on Use of Anti-Virus Software*
Other software	.NET Framework 3.5 SP1

IMPAX Client hardware and software requirements

(Topic number: 6679)

IMPAX Client workstations have specific hardware and software requirements.

IMPAX Client: Hardware requirements

(Topic number: 7793)

The following hardware configuration are intended as a guide for IMPAX 6.5.3 Clients used primarily for viewing large volume image sets (such as 64 slice CT) and using third-party applications such as Voxar 3D, TalkStation, Orthopaedic planning tools, and so on. These Clients are typically used inside a hospital environment, such as a radiology reading area by radiologists. While IMPAX Client should work on an equivalent platform, optimal results can be guaranteed only on the recommended platform.

To use the CT-MR navigation tools, we strongly recommend that, due to the high volume of data being manipulated, Client systems be equipped with a high-end video subsystem that is PCle X16 based.

⊞ CAUTION!

For official diagnostic interpretation, we recommend setting the display to 32-bit color or more.

Component	Requirements
System	The Agfa preferred supplier is HP. HP xw4400, xw4600, xw6400, xw6600, z400, or z600 Dell Precision™ 490 or 690, T5400, T7400, or T7500
CPU	2 x 2.0GHz or higher 1 x Dual/Quad Core 2.8GHz or higher 1 x Intel® Pentium® M 1.5GHz (Tablet PC – Non-diagnostic)
RAM	Windows XP: 1 GB minimum Windows Vista and Windows 7: 4 GB minimum 8 GB recommended for all new systems for optimal performance and viewing of large volume image sets 4 GB recommended for IMPAX Clinical Applications such as IMPAX Virtual Colonoscopy, IMPAX PET-CT Viewing, and IMPAX Reporting (embedded speech recognition)
Hard drive space	80 GB minimum
Modem	Not applicable
DVD-ROM drive	Yes
Tape backup	Not applicable
Floppy drive	Not applicable
Network interfaces	System comes with an integrated 100/1000 Mbps Ethernet adapter
Power supply	Default

Component	Requirements	
Peripherals	Scroll mouse and keyboard	
	For North America, the Logitech MX518 is used with the MA3000.	
Other	Microsoft supported DVD RW/CDRW	
Video		
Diagnostic review workstations and high-end diagnostic review workstations	**Windows 7 (WDDM)*:** MXRT1150, 2150 MXRT5200 (covers 98% of the diagnostic requirements) MXRT5400 MXRT7200 (high end board for IMPAX Clinical Applications such as Oasis for IMPAX) MXRT7300 (high end board for IMPAX Clinical Applications such as Oasis for IMPAX. Supported from WDDM v1.1 May/June 2010)	**Windows XP and Vista (for upgrades):** BarcoMed PCle for Coronis BarcoMed PCle for Nio BarcoMed PCle 5MP2FH (only with monitor MF GD-5621HD) MXRT 2100/5100/7100 (not sold anymore but still supported) MXRT5200 (covers 98% of the diagnostic requirements) MXRT200 and 7300 (high-end board for IMPAX Clinical Applications such as Oasis for IMPAX)
RIS/Administrator stations and Clinical review stations	**Windows 7 (WDDM):** NVIDIA FX 1700, FX 1800, FX 4800 ATI 3700, 3750, V3800 (third monitor board) MXRT 1150/2150 (third monitor board)	**Windows XP and Vista:** NVIDIA FX 1700, FX 1800, FX 4800 ATI 3700, 3750, V3800 (third monitor board) MXRT 1150/2150 (third monitor board)

*Windows 7 and WDDM drivers do not support the BarcoMed and older MXRT (2100, 5100, and 7100) boards.

IMPAX Client: External software requirements

(Topic number: 6694)

The following software is required for all new stations. Unless otherwise indicated, Agfa does not provide the software as part of the IMPAX Client installation package.

📑 **Note:**

Ensure that the WEB, Compressor, and Curator packages are not installed on the Client machine.

Component	Requirements
Operating system	Windows 7 Professional 64-bit (single language support) SP1 or Windows 7 Ultimate 64-bit (multi-language support) SP1 for Diagnostic review stations
	Microsoft Windows XP Professional SP3 may be used for non-diagnostic Client upgrades but is no longer available for shipment
	Note that other versions of Windows 7 SP1 can be used for non-diagnostic review stations.
Other software	Microsoft Internet Explorer 8.0
	.NET 3.5 SP1
	Latest version of Adobe® Reader®
	Antivirus software such as Norton Antivirus 6.1 or higher, Trend Micro, or McAfee Antivirus 4.5 or higher
	Note that Oracle 11 Client is required for IMPAX Reporting and IMPAX for Cardiology

The IMPAX Client will run on 64-bit operating systems in 32-bit compatibility mode. The IMPAX Client is not a 64-bit application and therefore does not take advantage of 64-bit processing or memory addressing.

External
software licenses

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Cygwin

(Topic number: 121758)

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Version 2, June 1991

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Editline 1.2-cstr

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OpenSSL

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Oracle® Database

(Topic number: 148001)

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Xerces C++ Parser, version 1.2

(Topic number: 121761)

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Zlib

(Topic number: 7595)

zlib.h -- interface of the 'zlib' general purpose compression library version 1.2.2, October 3rd, 2004

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Glossary

A

APIP

Agfa Proprietary Imaging Protocol. Used to receive the proprietary format, reformat the images to DICOM, and redirect them to the SCP. An APIP SCP is used specifically to receive images from certain older Agfa image sources.

Autopilot

Service that removes old and expired data when the cache starts to get full. This maintenance function keeps the database to a manageable size.

B

browser

Software that allows a user to search through information on a server. The term usually refers to a universal client application, such as Firefox or Internet Explorer, that interprets HTML documents.

C

cc objects

Change Context (cc) objects are DICOM objects used to communicate and synchronize study metadata changes across multiple IMPAX clusters.

CLUI

Command Line User Interface. A command-line tool to help in the service of IMPAX MVF. CLUI allows you to execute SQL statements.

cluster

A networking solution combining two or more otherwise independent computers, enabling them to work together in managing hospital data.

compression

Reduces the size of a file to save both file space and transmission time. Lossless, lossy, and wavelet are examples of compression types.

Curator

Curator is an IMPAX MVF server component. It is responsible for compressing incoming images into the Mitra Wavelet format and storing them in the web cache. These studies can be accessed by remote or local clients.

D

database

A collection of data that is organized so that its contents can easily be accessed, managed, and updated.

DICOM

Digital Imaging and Communications in Medicine. The standard communication protocol used by a PACS, HIS, or modality to exchange information or images with other systems.

H

HIS

Hospital Information System. The database used by a hospital to manage patient information and scheduling.

HIS verification

An option that forces the PACS to verify all incoming images from an acquisition station or modality against specific criteria, such as the patient ID and accession number. The PACS sends a message through the RIS Gateway to verify the criteria against what is contained in the HIS. If the criteria match, then the images can be stored permanently.

HSM

Hierarchical Storage Management. An HSM archive system provides long-term storage of data and access to data. Studies archived with HSM are stored to a file system. A mount point and subdirectory to store studies to is specified. The HSM system handles data storage.

HTTP

Hypertext transfer protocol, a TCP-based protocol for transferring hypertext requests and information between servers and browsers.

HTTPS

Hypertext transfer protocol, secure—a URL access method for connecting to http servers using SSL (secure sockets layer).

I

image

A single frame taken by a modality. Certain modalities, such as a CT, MRI, or PET, take consecutive sets of images called *series*. *Studies* are combinations of series or images for a single patient.

IP address

The Internet Protocol address is a numeric address that identifies the station to other TCP/IP devices on the network.

L

log file

A file or set of files containing a record of the actions and modifications made in an application. Service teams use log files during setup and configuration of the system or its components. Logs are also used to diagnose problems. Logging can typically be set to record varying levels of detail.

M

modality

An imaging discipline, such as CT, or a device that gathers digital information, such as digitizers for X-ray film, MRI scanners, and CR devices.

MVF_SCU

A process that handles store and retrieve jobs for the PACS Store and Remember archive.

On IMPAX systems, it runs on the Network Gateway.

N

network

A group of computers, peripherals, or other equipment connected to one another for the purpose of passing information and sharing resources. Networks can be local or remote.

Network Gateway

The Network Gateway is part of the IMPAX MVF cluster. Essentially, this is the workflow manager of the IMPAX 6.0 and later system. The Network Gateway controls the studies

coming into the cluster from an acquisition station, validates these incoming studies against information from the HIS or RIS, and routes the validated studies to cache or archive.

O

OCR

Optical Character Recognition is the recognition of printed or written characters by a computer. If a modality generates images into the system but not enough information about a study is sent, OCR templates read information directly from the burned demographics.

P

PAP

PACS Archive Provider. A PACS Archive Provider (PAP) acts like a Service Class Provider (SCP) in that it receives studies. However, it differs from an SCP in that the PAP can automatically register a study as PACS archived if the study originates from a source that the PACS stores to and remembers from, without having to queue the study for archiving back to the source. The PAP can also parse the private tags of the incoming DICOM objects to determine HIS verification and study status.

PSARMT

PACS Store and Remember Migration Tool. This tool enables a site to migrate from an external PACS system to IMPAX by allowing the external system to act as an archive server to IMPAX.

S

scheduled worklist

A worklist that you can set to occur on specific days, that holds the studies for a round, clinic, or conference. You can prepare for a round by taking snapshots of study layouts with the Snapshot tool and saving the snapshots in a scheduled worklist.

SCP

Service Class Provider. A DICOM server that receives requests from an SCU. The DICOM SCP accepts images for processing, processes find and retrieve requests, and handles storage commitment requests and replies.

SCU

Service Class User. Primarily sends DICOM requests to an SCP.

single-host configuration

A configuration in which the Database, Archive Server, and Network Gateway server components are all installed on a single server.

single-server configuration

An IMPAX single server is a Windows server that runs the AS300 Server software in a single-host configuration along with the Application Server and Connectivity Manager software.

standalone configuration

In an IMPAX standalone configuration, the IMPAX AS300 Server, Application Server, and Client software are all installed on the same Windows server.

standalone station

Windows server on which the IMPAX Client, AS300, and Application Server software are installed. The standalone does not have its own installation program. To create a standalone, the AS300, Application Server, and Client installation programs are each run separately.

U

UNC

Universal Naming Convention. A convention for identifying servers and other resources on a network. UNC uses the format *servername**resource*.

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